

156
McDonnell Aircraft Company

File
MCDONNELL DOUGLAS

16 December 1991

Mr. Nick Di Pasquale, Director
Waste Management Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Reference: Modification of Hazardous Waste Storage
Permit #OSO 062284 002, MOD000818963

Enclosure: 1) Revised Waste Analysis Plan
2) Revised Operations Manual
3) Description of New Area 2 Container Storage Facility
4) Revised Contingency Plan

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Dear Mr. Di Pasquale:

Since the issuance of our Part B Hazardous Waste Storage Permit, there have been several physical and operational changes that will require revisions to the permit. We are proposing the following modifications:

1. Waste analysis plan.

The waste analysis plan, Section C-2 of the permit application, has been rewritten to clarify the overall hazardous waste management and sampling procedure. The revised section specifies that containers of waste will be identified by sample analysis or knowledge of the generating process.

2. Operations Manual for Hazardous Waste Storage Facilities Tract I.

"Operations Manual for Hazardous Waste Storage Facilities Tract I", Section D, Attachment D-1 of the permit application, has been revised to reflect current waste management procedures.

RCRA RECORDS CENTER
R00148175



3. Removal of storage tanks from permit status.

All permitted storage tanks, with the exception of the 120,000-gallon capacity inground tank, designated as "Building 14 Sludge Holding Tank", are no longer used for greater than 90 day storage of waste. The following tanks have been physically removed:

1. Six 750-gallon capacity above ground tanks, designated as H-1, H-2, H-3, H-4, H-5, and H-6, used to store waste nitric/hydrofluoric acid. These tanks were removed in 1986.
2. Two 500-gallon capacity above ground tanks, designated as H-15 and H-16, used to store waste nitric/hydrofluoric acid. These tanks were removed in 1986.
3. One 3,380-gallon capacity, horizontal, below grade tank, designated as "Hush House Waste Tank" used for storage of jet fuel. This tank was removed in 1989.
4. One 1000-gallon capacity, horizontal, below grade tank, designated as "Building 6 Waste Oil Tank". This tank was removed in 1989 and replaced with a 500-gallon above ground tank for less than 90 day storage.

The following tanks remain in place but are no longer used for greater than 90 day storage of waste:

1. Three 500-gallon capacity, above ground tanks, designated as H-12, H-13, and H-14, used to store waste nitric/hydrofluoric acid from chemical milling of titanium.
2. Two 10,000-gallon capacity, above ground tanks, designated as H-19 and H-20, used for the storage of sodium hydroxide solution from chemical milling of aluminum.

3. Two 2,000-gallon capacity, vertical, below grade tanks, designated as "Fuel Pit 3 and Fuel Pit 4", used for the storage of jet fuel that leaked or spilled during fueling operations.

4. One 2,000-gallon capacity, horizontal, below grade tank designated as "F-18 Silencer Waste Tank", used for the storage of jet fuel and hydraulic fluid.

5. One 5,000-gallon capacity, horizontal, below grade tank, designated as "Building 28 Waste Tank", used for storage of jet fuel that leaked or spilled during testing of aircraft fuel systems.

6. One 4,380-gallon capacity, horizontal, below grade tank, designated as "Ramp Station 1 and 2", used for storage of jet fuel that leaked or spilled during repair of aircraft fuel systems.

4. Removal of container storage areas from permit status.

The following container storage areas are no longer used for greater than 90 day storage of waste:

1. Area 2 container storage, used for the storage of reactive cyanide and sulfide bearing waste, was replaced with a new prefabricated structure in 1989. The maximum storage capacity of waste in Area 2 has been reduced from 31 to 28 55-gallon drums.

2. The explosives storage building, designated as Area 3, is no longer used for waste storage.

5. Inspection schedule.

Elimination from the inspection schedule the tanks and container storage areas that have been removed from permitted status.

6. Contingency plan.

The contingency plan was updated to reflect changes in emergency coordinators, internal spill/incident notification procedures, oil and hazardous substance storage and use sites, and facility and equipment changes.

7. Department name.

The Environmental Pollution Control Section of Plant Engineering has been changed to the Environmental and Hazardous Materials Services Department.

It is our interpretation that these modifications are Class I as described under 40 CFR 270.42 incorporated by reference in 10 CSR 25-7.270. These permit modification regulations require that a notice of permit modification be sent to all persons on the facility mailing list maintained by the Director. Please provide us with that list so we can make the proper notifications. Also, advise us of any additional information you may need.

Sincerely,

A handwritten signature in cursive script that reads "Joe Haake".

Joe Haake, Section Manager
Environmental and Hazardous Materials Services
Dept. 064C, Mail Code 0343530
314-232-6941

CC Frank Dolan, Waste Management Program
St. Louis Regional Office

Date: 10 Nov 1991

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C-2 Waste Analysis Plan (40 CFR 264.13)

This plan details the procedures that MDC-St. Louis follows in determining the classification of wastes. The Environmental and Hazardous Materials Services Department (EHMS) under the Occupational Safety, Health and Environmental Division (OSHE) of McDonnell Aircraft Company (MCAIR) is responsible for monitoring all wastes, hazardous and non-hazardous, generated at this site. EHMS administers all contracts for removal and disposal of all wastes at this site. Figures C-1 and C-2 exhibit the close control that EHMS exercises over the hazardous waste. The details of the steps used are as follows:

- Step 1 EHMS becomes aware of waste in several ways. These ways are a) Process Specifications, b) Manufacturing Method Procedures, c) generating department requests a removal.
- Step 2 After becoming aware of the present or near-future need for disposal of a waste, EHMS requests technical data concerning the chemical composition of the components of the waste.
- Step 3 Technical data is received by EHMS, and a specific file is developed for this waste.
- Step 4 A sample of the waste is obtained. The sample is forwarded to an independent testing laboratory under contract with EHMS or to the MCAIR-St. Louis Engineering laboratory for a complete profile analysis. Parameters typically analyzed for and test methods used are shown in Table C-1. Additional test parameters are based on the technical information received in Step 3 and any additional knowledge regarding the solution usage available from the generating department. The form used to request analytical

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work from the laboratory is shown in Figure C-3. All analytical procedures are from Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, or other EPA approved methods.

- Step 5 The laboratory forwards a report of analyses to EHMS. This report becomes a part of the file generated in Step 3. Figures C-4 through C-7 are examples of typical laboratory analysis reports. The analyses is reviewed and the waste is classified as being hazardous or non-hazardous, according to the definitions listed in 40 CFR Part 261 and 10 CSR 25-4.261.
- Step 5A If the waste is non-hazardous by both federal and state regulations, then the generating department is contacted and instructed as to how to discard the waste.
- Step 5B If the waste is hazardous by either or both federal and state regulations, then the generating department is contacted and instructed to contact EHMS whenever a removal is required. If this waste category has not already been registered for this site, then notification is forwarded to the Missouri Department of Natural Resources. The waste stream is resampled and analyzed on an annual basis or when processes change to determine if there is any change in the hazardous waste characteristics.
- Step 6 EHMS provides all waste generating areas with proper waste containers. When the containers are delivered, EHMS attaches an "OK to fill" label, MCAIR form number 4596D (Figure C-8), which identifies the waste that can be placed into the container.

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Prior to placing waste into the container, the generating department attaches a "Hazardous Chemical Waste" label, MCAIR form number 4596 (Figure C-9), which also identifies the contents of the container. When the container becomes full the generating department requests a removal. EHMS then inspects the container, labels it with the appropriate hazardous waste label (Figure C-10), and makes arrangements with the maintenance department for transfer of the containers to the hazardous waste storage shelter. If the containers are being sent from another MCAIR site to the MCAIR storage shelter, EHMS prepares the necessary manifest and the containers are transported via licensed MDC vehicles.

Step 6A Prior to shipment of the waste to an off-site treatment, storage, or disposal facility (TSDF), identification of the contents in each container is verified by knowledge of the generating process or sample analysis. Verification may be performed while the waste is at the generating area or in the storage shelter. Waste from an unknown process is sampled and analyzed prior to entering the storage shelter.

Step 6B If chemical analysis is required to verify a waste, a sample is taken and sent to the laboratory for fingerprint analysis. Table C-2 lists the sampling methods and analytical parameters for each waste stream. If the fingerprint results are not comparable to the annual analytical results, a second sample is obtained and a complete waste stream analysis performed.

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- Step 6C If the results of the fingerprint analysis are comparable to annual waste stream analyses, then the waste is earmarked for removal to an off-site TSDF.
- Step 7 Upon accumulation of a sufficient quantity of waste in the storage area, EHMS contacts the appropriate hazardous waste transporter and TSDF and arranges for removal.
- Step 8 Procedures in Steps 6A, 6B, and 6C are followed for verification of hazardous waste to be removed in bulk. At the time of removal, a sample is taken and maintained by EHMS. The purpose of this sample is to provide proof of what has actually been taken away from this site in the event of an accident or discrepancy in analysis at the TSDF.

FIGURE C-1

FLOW CHART
NEW HAZARDOUS WASTE STREAM IDENTIFICATION

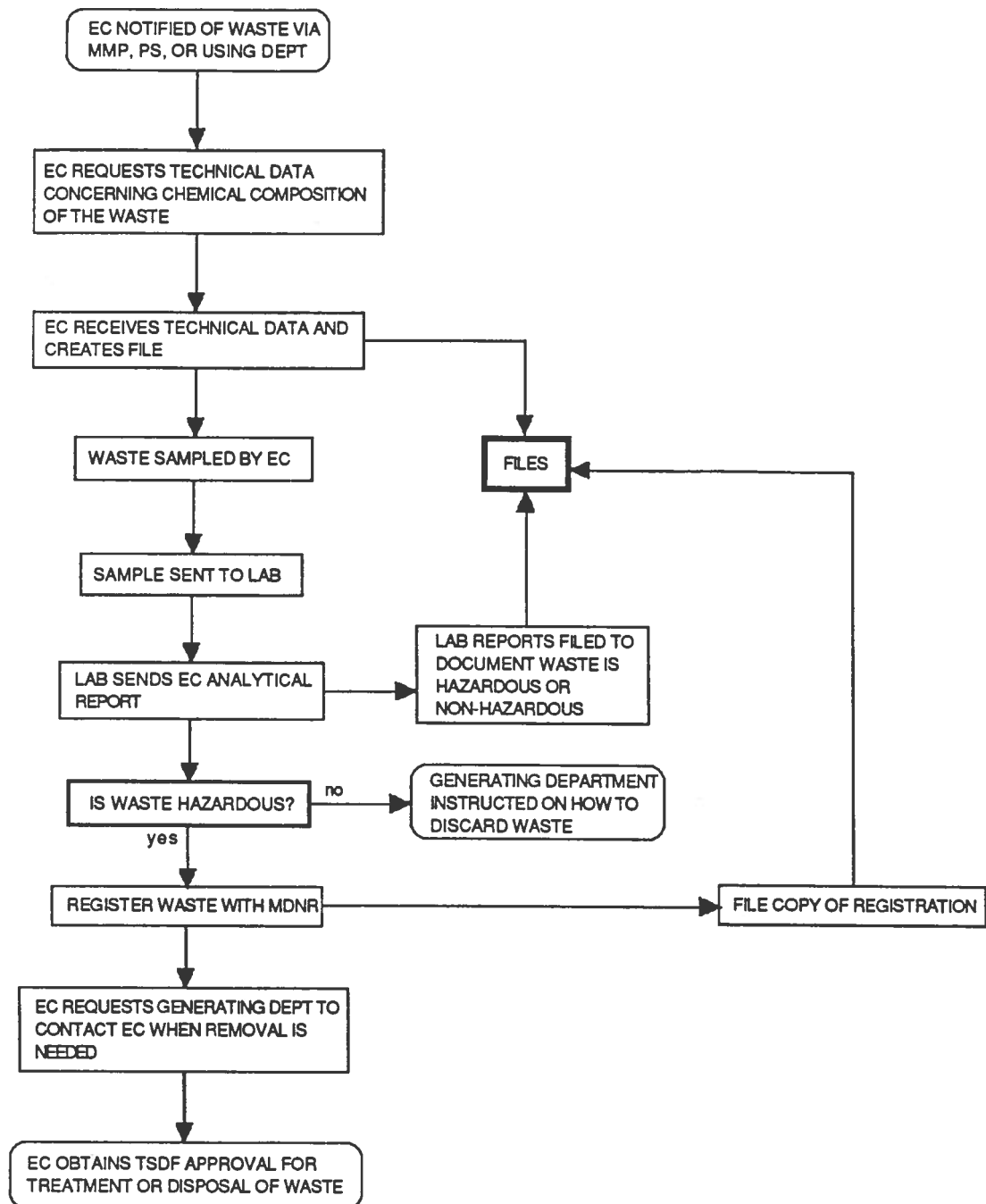


FIGURE C-2

FLOW CHART
HAZARDOUS WASTE DISPOSITION

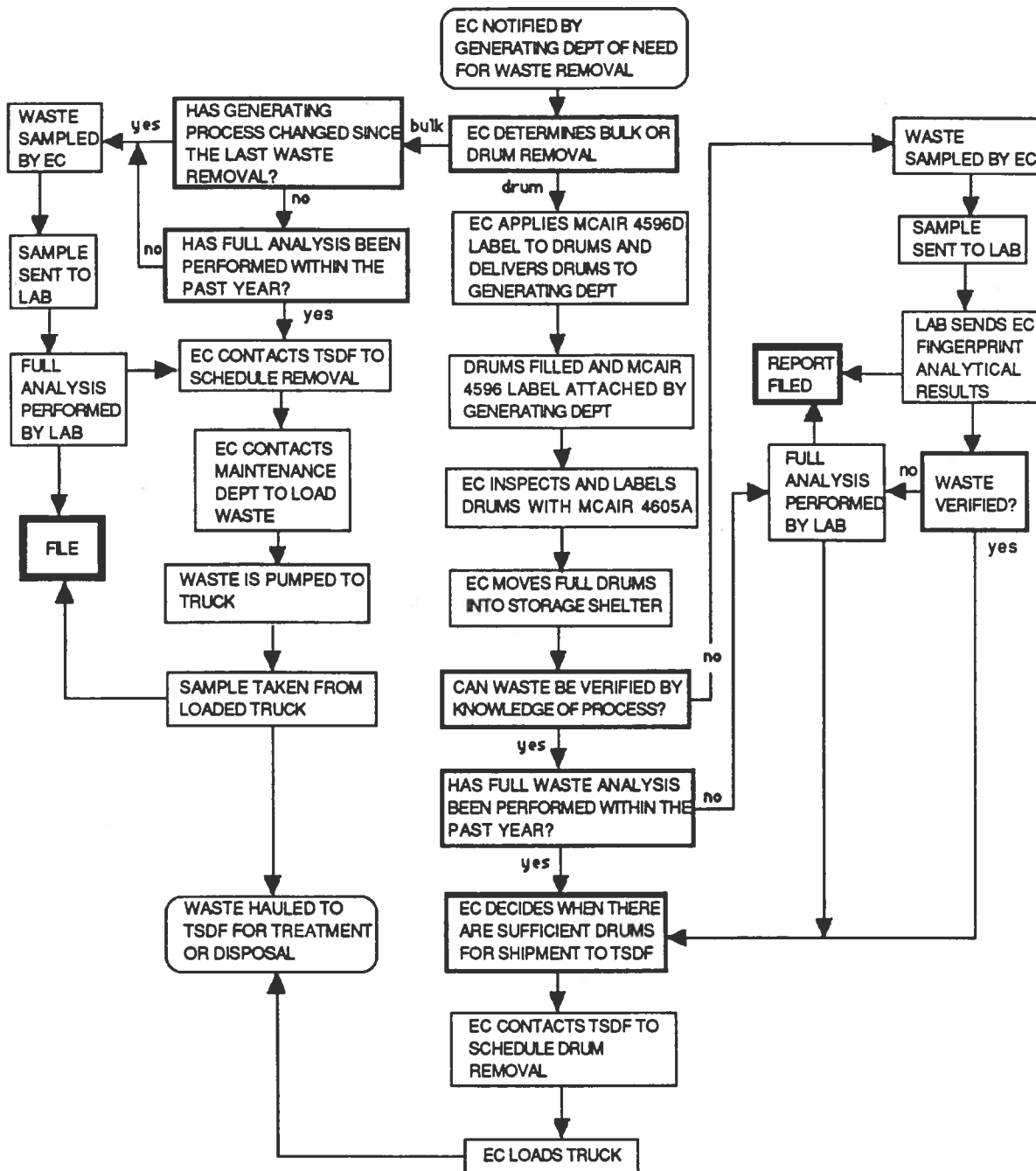


TABLE C-1

PARAMETERS AND TEST METHODS

PARAMETER	TEST METHOD	REFERENCE
1. pH	Electrometric	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (9040)
2. Flash Point	Pensky-Martens closed-cap tester	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (1010)
3. TCLP	TCLP	40 CFR 261 Appendix II
4. EP Toxicity	EP Toxicity	40 CFR 261 Appendix II
5. Reactivity (cyanide)	Titration/colorimetric	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (7.3.3)
6. Reactivity (sulfide)	Distillation	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (7.3.4)
7. Arsenic	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)
8. Barium	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)
9. Cadmium	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)
10. Chromium (VI)	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)
11. Lead	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)
12. Mercury	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)
13. Selenium	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)

TABLE C-1
 PARAMETERS AND TEST METHODS

PARAMETER	TEST METHOD	REFERENCE
14. Silver	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)
15. Specific gravity	Hydrometer/ pycnometer	ASTM-D 891-86
16. Volatiles	Ignition	Standard Methods 254 0E
17. Total halogen	Titration	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (9020)
18. Sulfuric acid	Ion chromatography	Standard Methods 4110 B
19. Hydrofluoric acid	Ion chromatography	Standard Methods 4110 B
20. Nitric acid	Ion chromatography	Standard Methods 4110 B
21. Hydrochloric acid	Ion chromatography	Standard Methods 4110 B
22. Phosphoric acid	Ion chromatography	Standard Methods 4110 B
23. Ferric chloride	Atomic absorption	Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846), U.S. EPA, 1986 (6010)
24. Nitrite/nitrate	Colorimetric/ spectrophotometer	Standard Methods 4110 B/4500
25. Residue at 105°C	Evaporation/ ignition	Standard Methods 254 0B

Request For Laboratory Analysis

LAB	SAMPLE NUMBER	DATE SAMPLE TAKEN	MATERIAL/SOLUTION			MO ID
DATE REQUESTED	REQUESTER			DEPT	MAILCODE	TELEPHONE NO

Parameter	Value	Units	Method	Method Number	Analyst	Date
Alkalinity		mg/l	Std Mtd			
Arsenic		mg/l	SW 846			
Barium		mg/l	SW 846			
Beryllium		mg/l	SW 846			
Cadmium		mg/l	SW 846			
Chromium (hex)		mg/l	SW 846			
Chromium (total)		mg/l	SW 846			
Copper		mg/l	SW 846			
Cyanide		mg/l	SW 846			
Ferric Chloride		mg/l	SW 846			
Flash Point		° F	SW 846			
Inorganic Chlorides		% wt. HCL	Std Mtd			
Inorganic Fluorides		% wt. HF	Std Mtd			
Inorganic Nitrates		% wt. HNO ₃	Std Mtd			
Inorganic Phosphate		% wt H ₃ PO ₄	Std Mtd			
Inorganic Sulfates		% wt. H ₂ SO ₄	Std Mtd			
Iron		mg/l	SW 846			
Lead		mg/l	SW 846			
Mercury		mg/l	SW 846			
Nickel		mg/l	SW 846			
Nitrite/Nitrate		mg/l	Std Mtd			
Organic Chlorides		% wt. Chlorin	ASTM D808			
PCB		ppm	EPA/OIL			
Phenol		mg/l	SW 846			
pH			SW 846			
Potassium		% wt KOH	SW 846			
Residue At 105° C		% wt. Solids	Std Mtd			
Selenium		mg/l	SW 846			
Sodium		% wt. NaOH	SW 846			
Sulfide		mg/l	SW 846			
Zinc		ppm	SW 846			
TCLP		mg/l	40 CFR 261			
Reactivity			SW 846			
Volatiles 100° C		% wt.	Std Mtd			
Volatiles 600° C		% wt.	Std Mtd			
Specific Gravity			ASTM D891-96			
Total Halogen		ppm	ASTM D808			

Remarks

Environmental Analysis, Inc.

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MCDONNELL-DOUGLAS

 PAGE NO : 2
 REPORT NO : 30814
 DATE : 08/11/88

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
916211	5334-DEBRIS	Cyanide	4.5	ug CN/g
		Reactive Cyanides	<0.10	ug CN/g
		Chromium	371	ug Cr/g
		EP TOXICITY	261.24	Meth. No
		EP Silver	<0.008	mg Ag/l
		EP Arsenic	<0.005	mg As/l
		EP Barium	1.40	mg Ba/l
		EP Cadmium	0.016	mg Cd/l
		EP Chromium	2.49	mg Cr/l
		EP Mercury	<0.0008	mg Hg/l
		EP Lead	0.010	mg Pb/l
		EP Selenium	<0.005	mg Se/l
		Flash Point (PM)	>210	deg. F
		pH Value	7.68	10% Sol
		Sulfides (React.)	<10	ug S/g
		Specific Gravity	0.24	g/cm3
		Total Metals Prep.	1	
		Volatiles @ 100 C	21.73	% w/w
		Volatiles @ 600 C	97.38	% w/w



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MCDONNELL-DOUGLAS

 PAGE NO : 2
 REPORT NO : 37548
 DATE : 02/08/90

RESULTS OF ANALYSIS

LOG NUMBER	SAMPLE DESCRIPTION	TEST NAME	RESULTS OF ANALYSIS	UNITS OF EXPRESSION
1107609	5900 SLUDGE 036 r	Silver	31.3*	ug Ag/g
		Arsenic	9.41*	ug As/g
		Barium	828*	ug Ba/g
		Cadmium	99.3*	ug Cd/g
		Cyanide	67.5	ug CN/g
		Cyanides Amen. to Cl	19.3	ug CN/g
		Reactive Cyanides	<0.10	ug CN/g
		Chromium	6260*	ug Cr/g
		EP Toxicity	261.24	Meth.No
		EP Silver	0.010	mg Ag/l
		EP Arsenic	<0.005	mg As/l
		EP Barium	0.72	mg Ba/l
		EP Cadmium	0.056	mg Cd/l
		EP Chromium	0.810	mg Cr/l
		EP Mercury	<0.0005	mg Hg/l
		EP Lead	<0.005	mg Pb/l
		EP Selenium	<0.007	mg Se/l
		Flash Point (PM)	>210	deg. F
		Mercury	0.8260*	ug Hg/g
		Lead	906*	ug Pb/g
		pH Value	8.05	10% Sol
		Sulfides (React.)	<10	ug S/g
		Selenium	3.28*	ug Se/g
		Specific Gravity	1.33	g/ml
		TC Leaching Proc.	Vol.51, #9	Fed.Reg
		TCLP Silver	<0.011	mg Ag/l
		TCLP Chromium	0.168	mg Cr/l
		TCLP Nickel	1.54	mg Ni/l
		TCLP Lead	<0.40	mg Pb/l
		Total Metals Prep.	1	
		Volatiles @ 100 C	54.6	% w/w
		Volatiles @ 600 C	68.5	% w/w

* Analyzed on sample dried at 105 deg. C.



Mc Donnell Douglas Corp.
 Mc Donnell Aircraft Co.
 ANALYTICAL CHEMISTRY LABORATORY

LABORATORY REPORT

ACL No. : 2387-6
 Customer Sample No. : 5821
 Sample ID. : ALKALINE SLUDGE
 Sample Type : ANNUAL
 Date of Receipt : 10-05-89
 Date of Report : 12-18-89

RCRA Characteristics

Reactivity
 Cyanide (CN) : NEG
 Sulfide (S) : NEG
 Corrosivity : POS
 Ignitability : NEG

Extraction Procedure Toxicity

Arsenic (As)	< 2.0	mg/L
Barium (Ba)	< 10	mg/L
Cadmium (Cd)	< 0.05	mg/L
Chromium (Cr)	2.5	mg/L
Lead (Pb)	9.8	mg/L
Mercury (Hg)	< 0.05	mg/L
Selenium (Se)	< 0.5	mg/L
Silver (Ag)	< 0.1	mg/L

Methodology: USEPA, SW 846, most recent edition.

pH : 1.9
 Flashpoint : > 140 °F
 Volatiles @ 100°C : 69 %
 Volatiles @ 600°C : 72 %
 Non-combustibles : 28 %
 Specific Gravity : NTA

NTA - NO TEST ATTEMPTED DUE TO SAMPLE MATRIX


 Kenneth Lee

Sr. Engineer
 256/102/1022152/49824

ANALYTICAL CHEMISTRY LABORATORY
McDonnell Douglas Corp.

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LABORATORY REPORT

ACL No. : 9560-6

Customer Sample No. : 5443

Sample ID. : Annual

Sample Type : CHEM MILL CAUSTIC

Date of Collection : 10/03/88 Date of Receipt : 10/05/88

Date of Report : 02/18/89

RCRA Characteristics

Reactivity **		
Cyanide (CN)		NEG.
Sulfide (S)		POS.
Corrosivity		POS.
Ignitability		NEG.
Extraction Procedure Toxicity		POS.
Arsenic (As)	11.5	mg/L
Barium (Ba)	<1.0	mg/L
Cadmium (Cd)	0.2	mg/L
Chromium (Cr)	1.9	mg/L
Lead (Pb)	<0.5	mg/L
Mercury (Hg)	<0.1	mg/L
Selenium (Se)	3.2	mg/L
Silver (Ag)	<0.1	mg/L

** GENERATES HEAT AND GAS WHEN pH IS ADJUSTED
Methodology: USEPA, SW 846, Most Recent Edition

.....

pH	12.7 units
Volatiles at 100 C	90.7 Wt. %
Volatiles at 600 C	90.7 Wt. %
Non-Combustible	9.3 Wt. %
Specific Gravity	1.0644

Kenneth Lee
Kenneth Lee
256/102/1022152/39606

<h1>OK TO FILL</h1>		
MATERIAL _____		
DEPT _____	BLDG _____	TANK _____
EXTRA INSTRUCTIONS		

DATE _____		INITIALS _____
ENVIRONMENTAL POLLUTION CONTROL EXTENSION 23319		
MAC 4596D (5 OCT 82)		

HAZARDOUS CHEMICAL WASTE		
MATERIAL NAME:		
STATEMENTS OF HAZARD:		
PREPARED BY:	DEPT.	DATE
USE SOFT LEAD PENCIL TO FILL OUT FORM		
MAC 4886 (10 JUN 08)		

HAZARDOUS WASTE

--FEDERAL LAW PROHIBITS
IMPROPER DISPOSAL. IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY
AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

GENERATOR'S NAME AND ADDRESS: _____

MANIFEST DOCUMENT NUMBER: _____

TABLE C-2
METHODS USED TO SAMPLE HAZARDOUS WASTES
AND
PARAMETERS FOR FINGERPRINT ANALYSIS

<u>WASTE STREAM NUMBER</u>	<u>HAZARDOUS WASTE</u>	<u>EPA WASTE IDENTIFICATION NUMBER</u>	<u>FINGERPRINT ANALYSIS</u>	<u>SAMPLING METHOD</u>	<u>DESCRIPTION OF SAMPLING</u>	<u>REFERENCE FOR SAMPLER</u>
001	Waste acid solution from titanium metal surface cleaning (nitric and chromic acid)	D002, D007, D010	pH; specific gravity; inorganic nitrates; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
003	Waste acid solution from oxide removal on aluminum and titanium surfaces (nitric acid, potassium dichromate, potassium nitrate, sodium bifluoride)	D002, D007, D008	pH; specific gravity; inorganic nitrates; inorganic fluorides; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

*Only if solution is yellow in appearance

DATE: 28 Sep 90
 REVISION NO.: 2
 (C)

TABLE C-2

<u>WASTE STREAM NUMBER</u>	<u>HAZARDOUS WASTE</u>	<u>EPA WASTE IDENTIFICATION NUMBER</u>	<u>FINGERPRINT ANALYSIS</u>	<u>SAMPLING METHOD</u>	<u>DESCRIPTION OF SAMPLING</u>	<u>REFERENCE FOR SAMPLER</u>
005	Waste acid solution from removal of excess paint from part racks (chromic acid and phosphoric acid)	D002, D007, D008	pH; specific gravity; % chromic acid; inorganic phosphates	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
008	Waste acid solution from a chemical conversion coating process of aluminum and titanium surfaces (chromic acid, fluorides, ferricyanide)	D002, D007	pH; specific gravity; % chromic acid; inorganic fluorides; reactivity (ferricyanide)	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-84</u>

DATE: 28 Sep 90
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TABLE C-2

<u>WASTE STREAM NUMBER</u>	<u>HAZARDOUS WASTE</u>	<u>EPA WASTE IDENTIFICATION NUMBER</u>	<u>FINGERPRINT ANALYSIS</u>	<u>SAMPLING METHOD</u>	<u>DESCRIPTION OF SAMPLING</u>	<u>REFERENCE FOR SAMPLER</u>
009	Waste acid and chlorinated solvent solution from a coating removal operation (methylene chloride, formic acid, phenol)	D002, F002	pH; specific gravity; phenol; organic chlorides	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
010	Waste acid solution from aluminum metal surface cleaning (sulfuric acid, sodium dichromate)	D002, D008	pH; specific gravity; inorganic sulfates; % chromic acid	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-84</u>

DATE: 28 Sep 90
 REVISION NO.: 2
 (C)

TABLE C-2

<u>WASTE STREAM NUMBER</u>	<u>HAZARDOUS WASTE</u>	<u>EPA WASTE IDENTIFICATION NUMBER</u>	<u>FINGERPRINT ANALYSIS</u>	<u>SAMPLING METHOD</u>	<u>DESCRIPTION OF SAMPLING</u>	<u>REFERENCE FOR SAMPLER</u>
012	Waste acid solution from cleaning and pickling aluminum and titanium (nitric and hydrofluoric acid)	D002, D006, D007, D008	pH; specific gravity; inorganic nitrates; inorganic fluorides; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
013	Waste acid solution from chromic acid anodizing of aluminum and titanium (chromic acid, ferric nitrate, potassium fluoride)	D002, D007	pH; specific gravity; inorganic fluorides; % chromic acid; ferric nitrate	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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014	Waste acid solution from an aluminum hard coating operation (sulfuric and oxalic acid)	D002, D007, D008	pH; specific gravity; inorganic sulfates; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
016	Waste acid from stainless steel pickle or pretreatment (hydrochloric acid)	D002, D006	pH; specific gravity; inorganic chlorides; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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021	Waste acid from a stainless steel cleaning process (hydrofluoric and sulfuric acid)	D002	pH; specific gravity; inorganic sulfates; inorganic chlorides; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
022	Waste acid solution and sludge from various metal etching and cleaning (nitric, chromic, and hydrofluoric acid)	D002, D005, D007	pH; specific gravity; inorganic nitrates; inorganic fluorides; % chromic acid	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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023	Waste acid solution from metal surface passivation (nitric acid)	D002, D007	pH; specific gravity; inorganic nitrates; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
024	Waste alkaline solution from stripping of chromium plating (sodium hydroxide, sodium carbonate, sodium phosphate, chromium)	D002, D006, D007, D008	pH; specific gravity; % sodium; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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025	Waste alkaline solution derust cleaning of metal parts (sodium hydroxide, triethanolamine, sodium gluconate, kerosene)	D002, D007	pH; specific gravity; % sodium; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
026	Waste alkaline solution from cadmium cyanide plating operation (sodium cyanide, sodium hydroxide, cadmium oxide, sodium carbonate)	D002, D003	pH; specific gravity; % sodium; cyanide	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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028	Waste potassium dichromate solution from anodize sealing	D007	pH; specific gravity; % potassium dichromate	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
029	Waste alkaline cleaning solution from cleaning aluminum (sodium tripolyphosphate, sodium borate, sodium nitrate, sodium chromate)	D002, D007, D008	pH; specific gravity; % alkalinity; *hexavalent chrome	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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031	Waste ferric chloride solution from metal etching	D002	pH; specific gravity; % ferric chloride; total chromium	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
035	Waste alkaline solution from aluminum chemical milling	D002, D003, D004 D010	pH; specific gravity; % sodium; sulfides	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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036	Sludge from industrial waste water pretreatment plant	F006, F019	pH; specific gravity; residue at 105C	<u>Samplers and Sampling Procedures for Hazardous Waste Streams</u> , EPA-600/2-80-018, Page 11	Composite sample using a Trier scoop from six points in a nine cubic yard container	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods</u> , EPA-SW-846
037	Water-emulsified cutting oil from cutting and machining aluminum, titanium, and ferrous-base metals and alloys	Waste oil	pH; specific gravity; arsenic; lead; cadmium; total chromium	<u>Samplers and Sampling Procedures for Hazardous Waste Streams</u> , EPA-600/2-80-018, Pages 36 and 38	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods</u> , EPA-SW-846

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042	Waste jet fuel contaminated with water	D001	Flash point; specific gravity	<u>Samplers and Sampling Pro- cedures for Hazardous Waste Streams, EPA-600/ 2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coli- wasa, or a com- posite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
043	Mixed flam- mable solvents	F003, F005, D001, D007, D008, D035	Flash point; specific gravity	<u>Samplers and Sampling Pro- cedures for Hazardous Waste Streams, EPA-600/ 2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coli- wasa, or a com- posite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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038	Solid hazardous waste from aircraft painting and servicing	DU07	TCLP (chromium, lead)	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 12 and 13</u>	Composite sample using a scoop from containers of solid waste	40 CFR 261 Appendix II
040	Waste paint sludge from aircraft and building maintenance	DU01, DU07	TCLP (chromium); flash point	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 12 and 13</u>	Composite sample using a scoop from waterfalls in paint booths	40 CFR 261 Appendix II and <u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
04i	Waste chlorinated solvents from metal cleaning and degreasing operations and paint stripping	FU01, FU02 D040	Flash point; specific gravity	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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044	Waste hydraulic and motor oil	Waste oil	PCB; chlorine	<u>Samplers and Sampling Pro- cedures for Hazardous Waste Streams, EPA-600/ 2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coli- wasa, or a com- posite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
045	Mixed flammable/ chlorinated solvents	F002, D001, D007, D008	Flash point; specific gravity	<u>Samplers and Sampling Pro- cedures for Hazardous Waste Streams, EPA-600/ 2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coli- wasa, or a com- posite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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053	Waste sodium bicarbonate used to neutralize an acid spill	D002, D006, D007	pH	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 12 and 13</u>	Composite sample using a scoop	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
069	Plating solution for ferrous and non-ferrous alloys (nickel sulfamate, boric acid)	D002	pH	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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070	Phosphatizing of ferrous metal (phosphoric acid)	D002, D006, D008	pH; specific gravity; inor- ganic phosphates	<u>Samplers and Sampling Pro- cedures for Hazardous Waste Streams, EPA-600/ 2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coli- wasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
075	Mold material for die-casting metals (sodium nitrate)	D002	pH; specific gravity; nitrate/ nitrite	<u>Samplers and Sampling Pro- cedures for Hazardous Waste Streams, EPA-600/ 2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coli- wasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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032	Mixed acids (nitric acid, hydrofluoric acid, sulfuric acid, hydrochloric acid, phosphoric acid, chromic acid)	D002	pH; specific gravity; inorganic sulfates; inorganic nitrates; inorganic chlorides; inorganic fluorides; inorganic phosphates; % chromic acid	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coliwasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
091	Miscellaneous acid sludges	D002	pH	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank, using a Trier scoop	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>
092	Miscellaneous acid sludges	D002, D007	pH	<u>Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, Pages 36 and 38</u>	A representative sample from a drum or tank, using a Trier scoop	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

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097	Waste cyanide solution from gold etching	F009	pH; cyanide	<u>Samplers and Sampling Pro- cedures for Hazardous Waste Streams, EPA-600/ 2-80-018, Pages 36 and 38</u>	A representative sample from a drum or a tank less than four feet deep using a coli- wasa, or a composite sample from a tank deeper than four feet using a weighted bottle to grab samples at the top, middle, and bottom of the tank	<u>Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA-SW-846</u>

ATTACHMENT D-1

OPERATIONS MANUAL

HAZARDOUS WASTE STORAGE FACILITIES

TRACT I

A. PURPOSE

To establish a safe, orderly, effective method for operating the hazardous waste storage facilities (Tract I) that will prevent, reduce, or eliminate pollution to the environment through good hazardous waste management practices.

B. SCOPE

This procedure covers all hazardous wastes (acids, alkalis, caustic, oils, solvents, jet fuel coolants, etc.) that are held in hazardous waste storage facilities prior to removal for final disposal.

C. EQUIPMENT AND MATERIAL

1. Drum, fifty-five (55) gallon, with polyethylene liners, new or used, and triple rinsed. (DOT 37M)
2. Drum, fifty-five (55) gallon, mild steel, new or used, and triple rinsed. (DOT 17E and 17H)
3. Carboy, five (5) gallon, polyethylene, new, with cardboard carton. (DOT 2U carboy and DOT 21P carton)
4. Pump, transfer, portable acid resistant.
5. Wrench, bung.
6. Caddy-drum for fifty-five (55) gallon drum.
7. Truck - fork lift.
8. Attachment - drum lift, for fork lift truck.
9. Trailer - flatbed, eight (8) wheel, with either sideboards or safety chains.
10. Tank - mobile, stainless steel, unlined, five hundred (500) gallon capacity.
11. Tank - mobile, stainless steel, chlorobutyl lined, one thousand (1,000) gallon capacity.
12. Soda Ash - commercial grade. (Material Code No. 183-32180 - 100# bags)

C. EQUIPMENT AND MATERIAL (CONTINUED)

13. Oil - absorbent compound. (Material Code No. 185-31516 - 50# bags)
14. SAFETY EQUIPMENT
 - 14.1 Safety clothing (Chemrel suit, P.V.C. jacket and pants).
 - 14.2 Chemical goggles or face shield, full-face respirator with cartridge assortment.
 - 14.3 Boots - rubber, over-the-shoe type.
 - 14.4 Gloves - rubber, plastic, or acid resistant.
 - 14.5 Respirator - protects against acid gases alone or in combination with organic vapors. See Key No. 1.4 of Air Purifying Respirators - Personal Protective Devices manual. If mists are encountered, add pre-filter and clamp (see Key No. 1.5).
 - 14.6 Apron - acid resistant.

D. GENERAL

1. REFERENCES

- 1.1 Manufacturing Methods Procedure No. 37.10 - Chemical Solutions - Vendor Tank Truck Delivery and Removal of.
- 1.2 Manufacturing Methods Procedure No. 37.17 - Removal of Small Quantities of Chemical Waste.
- 1.3 Process Specification No. 20002.1 - Safety Information on Hazardous Materials (Small Quantities).
- 1.4 Process Specification No. 20002 - Safety Standards, Handling of Hazardous Materials.
- 1.5 Safe Practice Procedure 50.10 - Labeling - Shop and Inter-Building Containers.
- 1.6 Standard Maintenance Procedure No. 890-70-2 - Removal of Small Quantities of Hazardous Waste.
- 1.7 Standard Maintenance Procedure No. 890-70-10 - "SPCC" Spill Prevention, Control, and Countermeasure Plan; Contingency Plan; and Reporting Spills of Oil and Hazardous Materials.

D. GENERAL (CONTINUED)

2. STORAGE SITES

- 2.1 There are eleven (11) hazardous waste storage facilities at MDC-St. Louis (MCAIR). These are identified as follows:
- 2.1.1 Bldg. 10 - explosive waste storage.
 - 2.1.2 Bldg. 14 - sludge storage tank.
 - 2.1.3 Bldg. 27 scrap dock (two drum storage areas*).
 - 2.1.4 Bldg. 28 - fuel interceptor - underground receiver tank.
 - 2.1.5 Bldg. 52 - titanium etch storage tanks.
 - 2.1.6 Bldg. 52 - steel chem-mill storage tanks.
 - 2.1.7 Bldg. 52 - aluminum chem-mill storage tanks.
 - 2.1.8 Flight Ramp - Fuel Pit #3, spill receiver tank.
 - 2.1.9 Flight Ramp - F-18 engine test cell, underground receiver tank.

NOTE: Bldg. 27 scrap dock drum storage area consists of two separate storage areas.

Area No. 1 - Divided in two categories by a six-inch-high curb and each has a sump to accumulate any leakage that occurs. Acids and bases in one side and oils, solvents, and paint sludges in the other side.

Area No. 2 - For cyanides and sulfides. A prefabricated storage building with containment for spillage.

D. GENERAL (CONTINUED)

3. REGULATIONS - DRUM STORAGE FACILITY

- 3.1 All waste must be in closed DOT specification shipping containers and all containers of hazardous waste shall be inspected and labeled by Dept. 064C - Environmental Compliance, before they are removed from the generating area and taken to the hazardous waste storage facility.
- 3.2 Containers of hazardous waste must be taken to the storage facility only from 7:00 a.m. to 3:30 p.m. The operator will be on duty there to receive the material during these times.
- 3.3 When drums of hazardous waste are being handled with a fork lift, the drums must be either on a skid or the fork lift must be equipped with a special drum lift attachment to prevent damaging the drums. DO NOT LIFT A DRUM WITH JUST THE FORKS ALONE.
- 3.4 Drums shall be positioned in rows, two drums wide, with a minimum of eighteen (18) inches of space between rows. The aisle between double rows of drums must always be maintained to allow for an inspection for leaky containers.
- 3.5 Five-gallon carboys must be packed in a cardboard carton, taped closed, and stacked on a skid.
- 3.6 The operator shall make an inspection of the facility each working day to check for leaky or damaged containers, and for an accumulation of material in the sump. Any spill or leak must be corrected immediately. The material from a leaky container shall be transferred to a DOT specification shipping container. If the sump has an accumulation in it, locate and stop the source of the accumulation. Collect a sample and have a laboratory analyze it to identify it. Then transfer the material to an appropriate DOT shipping container.
- 3.7 In the event of an emergency, appropriate action outlined in the contingency plan will be taken.
- 3.8 Environmental Compliance will be responsible for notifying the necessary regulatory agencies in the event of any discharges or releases of hazardous waste.

D. GENERAL (CONTINUED)

3. REGULATIONS - DRUM STORAGE FACILITY (CONTINUED)

- 3.9 If the waste is generated in Tract I, the waste may be accepted at the storage facility without a manifest. If the waste is generated in Tract II, III, IV, or other remote buildings, the waste must be accompanied by a properly prepared hazardous waste manifest and Environmental Compliance (Dept. 064C) must authorize the over-the-road movement. Environmental Compliance personnel shall acknowledge receipt of the waste at the Tract I storage shelter by signing the manifest.

4. REGULATIONS - BULK TANKS

- 4.1 Bulk tanks are divided into two categories - above ground and underground. These tanks are connected to specific waste generating sources and accumulate waste in sufficient quantity to be removed by over-the-road vehicles.
- 4.2 Environmental Compliance shall make inspections of the above ground tanks and the leak detection systems for the underground tanks. Corrective action must be initiated immediately for any spill or leak.
- 4.3 In the event of a pollution emergency, appropriate action as outlined in the Contingency Plan will be taken.
- 4.4 Environmental Compliance will be responsible for notifying the necessary regulatory agencies in the event of any discharges or releases of hazardous waste.

5. REGULATIONS - EXPLOSIVE STORAGE

(See attached Operations Manual for explosive waste storage provided by Dept. 064D, Hazardous Materials Office, Occupational Safety and Health Division.)

6. REGULATIONS - RECORDKEEPING

The following records shall be maintained for at least three years:

- 6.1 Permit and approved plans (Dept. 064C).

D. GENERAL (CONTINUED)

6. REGULATIONS - RECORDKEEPING (CONTINUED)

- 6.2 Training records showing who has been trained and is knowledgeable of proper hazardous waste management procedures (Dept. 063). NOTE: Training records will be maintained until closure of the facility. Training records on former employees will be kept for three years after termination.
- 6.3 A copy of each manifest for waste received (Dept. 064C).
- 6.4 A log which records the quantities of wastes received and dispatched from the facility (Dept. 064C).
- 6.5 A manifest log which records the manifest number associated with each waste received and the disposition of that waste (Dept. 064C).
- 6.6 Copies of any waste analysis (Dept. 064C).
- 6.7 A log of visual inspections performed, corrective action taken and maintenance performed (Dept. 064C).

NOTE: A copy of MAC Form 4445A "Hazardous Waste Storage Facilities - Daily Inspection Log - Tract I" is attached to this manual.

7. OPERATING RESPONSIBILITIES

- 7.1 Hazardous waste storage facility operator
 - 7.1.1 Oversee all activities in the storage facility.
 - 7.1.2 Accept hazardous waste from Tract I only if it has been properly packaged, labeled, and identified.
 - 7.1.3 Accept waste from Tract II, III, IV, or other remote buildings if it is properly packaged, labeled, identified, and accompanied by a properly prepared hazardous waste manifest. Sign the manifest to acknowledge receipt of the waste.
 - 7.1.4 Conduct a visual inspection of the storage facility each working day to check for damaged, deteriorated or leaking containers. Transfer waste from any of these containers to good containers.

D. GENERAL (CONTINUED)

7. OPERATING RESPONSIBILITIES (CONTINUED)

- 7.1.5 If there is an accumulation of material in the sump, locate and stop the source, then collect a sample and have it analyzed at a lab and transfer the material to an appropriate DOT specification shipping container.
- 7.1.6 Copies of manifests, inspection logs, waste analysis, etc., will be maintained by Environmental Compliance for three years.
- 7.1.7 The operator shall take appropriate action as outlined in the contingency plan in the event of any explosions, fires, spills, unusual damage from weather conditions, and any discharges or releases of hazardous waste.

7.2 Waste handling personnel

- 7.2.1 Move drums of hazardous waste from the generating department only after being authorized by the storage facility operator.
- 7.2.2 Organize the drums in the storage facility as directed by the operator.
- 7.2.3 Transfer the contents of a leaking, damaged or deteriorated container or the sump to a proper container as requested by the operator.
- 7.2.4 Handle drums only on skids or with special drum lift attachment. NEVER MOVE A DRUM WITH STANDARD LIFT TRUCK FORKS.

7.3 Environmental Compliance Department

- 7.3.1 Obtain Storage Facility Permits.
- 7.3.2 Prepare Hazardous Waste Manifests when required.
- 7.3.3 Provide hazardous waste storage facility operator.
- 7.3.4 Maintain records for a minimum of three years.

7.4 MCAIR personnel training

- 7.4.1 Provide training for Maintenance Pipefitters, Equipment Operators and Laborers, Shipping personnel, Fire Services and Security Guard Services personnel.

McDonnell Aircraft Company

Facilities Maintenance

Standard Maintenance Procedure

S.M.P NO 440-7C-10

TITLE: SPILL PREVENTION AND
RESPONSE (SPR) PLAN

EFFECTIVE: 8 JUN 88

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SPILL PREVENTION AND RESPONSE (SPR) PLAN OIL, HAZARDOUS MATERIAL, AND HAZARDOUS WASTE STORAGE FACILITIES MCDONNELL DOUGLAS CORPORATION - ST. LOUIS

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SECTION I

PLAN REQUIREMENTS, REFERENCES, AND IMPLEMENTATION

A. PURPOSE

The purpose of this plan is to set forth procedures to prevent, reduce, or eliminate releases of oil and hazardous substances into the environment, and to control and clean up any release which does occur. The Spill Prevention and Response (SPR) Plan meets several regulatory requirements:

1. The SPR Plan meets Federal requirements (40 CFR 112) for a Spill Prevention, Control, and Countermeasures (SPCC) Plan for oil and petroleum products under the Clean Water Act. In the SPCC regulations, "oil" is defined broadly to include gasoline, diesel fuel, jet fuel, fuel oil, and oily refuse. Facilities that could reasonably be expected to discharge oil into navigable waters (including Coldwater Creek) are required to prepare and maintain an SPCC Plan.
2. The SPR Plan incorporates Federal requirements for a Contingency Plan for hazardous waste storage facilities under the Resources Conservation and Recovery Act (RCRA). MDC-St. Louis stores hazardous wastes prior to off-site recycling, reuse, or disposal. As a result, MDC-St. Louis is required by 40 CFR 264, Subpart D, to prepare a Contingency Plan to address the actions that are required if an accident should occur. The Contingency Plan elements of this SPR Plan cover the corrective action required in the event of a fire, explosion, or unintentional release of a hazardous waste.
3. The SPR Plan contains decontamination procedures for employees, equipment, and protective gear used in hazardous waste operations and emergency response. Occupational Safety and Health Administration (OSHA) regulations on "Hazardous Waste Operations and Emergency Response" require this.
4. The SPR Plan also complies with sections of the Emergency Planning, Emergency Notification, and Community Right-to-Know requirements imposed by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

SMP 440-70-10

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B. MDC FACILITIES INCLUDED IN SPR PLAN

McDonnell Douglas Corporation-St. Louis (MDC - St. Louis) is an Aerospace Manufacturer with office, warehouse, and manufacturing buildings in St. Louis City, St. Louis County, and St. Charles County. MDC St. Louis facilities included in this procedure are:

McDonnell Aircraft Company (MCAIR)

Tracts I and II, near Lambert St. Louis International Airport.
Tract IV, McDonnell Blvd. and I-270.
Remote MCAIR sites in St. Louis City and St. Louis County,
including Earth City.
Buildings 90-93 in St. Charles County.

and the following tenants of MCAIR-controlled facilities:

McDonnell Douglas Research Laboratories (MDRL)
Bldg. 110, Airport Road.
McDonnell Douglas Corporation Headquarters (MDC)
Tract II, Airport Road and McDonnell Blvd.
McDonnell Douglas Missile Systems Company (MDMSC)
Tract II, Airport Road and McDonnell Blvd.
McDonnell Douglas Electronics Systems Company--Lasers and
Electronics Systems (MDESC-LES)
Bldg. 111, Airport Road.

The following MDC facilities are not included in this procedure:

Tract III, near McDonnell Blvd. and Lindbergh Blvd.
Tract V, in St. Charles County.

C. REVIEW AND CERTIFICATION REQUIREMENTS

Under the SPCC regulations, the Plan must be reviewed and certified by a Registered Professional Engineer at least once every three years or whenever there is a change in facility design (equipment or plant), construction, or operation which will affect the facility's potential to discharge oil into navigable waters.

Those portions of the Plan required under RCRA (Contingency Plan) must be reviewed and immediately amended whenever:

1. The facility permit is revised;
2. The Plan fails in an emergency;
3. The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous materials, or changes in the response necessary in any emergency;
4. The list of Emergency Coordinators changes;
5. The list of emergency equipment changes;
6. The three-year SPCC Plan is reviewed.

D. REFERENCES

1. Operations Manual - Hazardous Waste Storage Facilities located in Tract I
2. SMP 440-70-1 Bulk Removal of Hazardous Waste Liquids
3. SMP 440-70-2 Removal of Small Quantities of Hazardous Waste
4. SMP 440-70-9 Polychlorinated Biphenyls (PCB's)
5. SMP 440-70-12 Emergency Chemical Transfer Kit
6. SMP 440-70-13 Hydrocarbon leak detection for Underground Tanks
7. SMP 440-70-16 Handling and Disposal of Hazardous Solid Waste
8. SMP 440-17-17 Delivery and Removal of Bulk Chemicals using Vendor Tank Truck.
9. Emergency Plan 1, Master Emergency Control Plan
10. Emergency Plan 4, Building Emergency Actions and Procedures
11. Emergency Plan 8, Hazardous Material Accident/Incident
12. 40 CFR 264 Subpart D, Federal Hazardous Waste Management Regulations.
13. 40 CFR 112, Federal Water Pollution Control Regulations.
14. 40 CFR 355, Emergency Planning and Notification Requirements for Extremely Hazardous Substances.
15. 40 CFR 370, Hazardous Chemical Reporting: Community Right-to-Know.
16. 29 CFR 1910, OSHA Regulations for Hazardous Waste Operations and Emergency Response.
17. RSMo. 292.600-292.625 Missouri Community Right to Know statute

E. IMPLEMENTATION OF THE SPILL PREVENTION AND RESPONSE PLAN

The SPR Plan will be implemented whenever an incident could pose an acute human health hazard or cause contamination of the environment, including the following situations:

1. A fire or explosion has caused or can cause the release of toxic vapors or combustion byproducts.
2. Use of water or chemical fire suppression agents could result in contaminated runoff.
3. The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.
4. The spill could cause the release of toxic liquids or vapors.
5. The spill can be contained on-site, but the potential exists for soil or ground water contamination.
6. The spill cannot be contained on-site, resulting in offsite soil contamination and/or ground or surface water pollution.

SECTION II

SPILL PREVENTION, EVACUATION, SITE CONTROL, AND NOTIFICATION

A. SPILL PREVENTION PROGRAM

Most elements of the MDC St. Louis spill prevention program are applicable to both hazardous waste storage facilities and areas where oil/hazardous materials are stored and used. The following spill prevention practices are in place.

1. Training. MDC employees who use or handle hazardous materials receive training in chemical hazards, under OSHA's Hazard Communication rule. All hazardous waste handlers and their supervisors receive annual training as required by RCRA, which covers routine waste handling, hazard identification, chemical compatibility, emergency notification procedures, safe entry, spill control, mitigation, and cleanup procedures. Training records for these persons are maintained by Dept. 064C, and in the central employee training database. First responders like McAIR Fire Services and McAIR Environmental Compliance personnel receive additional training in spill control, mitigation, and cleanup, under OSHA's Hazardous Waste Operations and Emergency Response rule. Environmental cleanup crews on contract with MDC St. Louis are required to document completion of the OSHA-required training.
2. Procedures and Procedural Compliance. There are written procedures for most operations that involve transfer or handling of oil/hazardous materials. Some of the major procedures are referenced in Section I D above. These procedures are reviewed by McAIR Environmental Compliance to ensure that spill prevention techniques are incorporated. Spill prevention techniques are incorporated into Standard Maintenance Procedures, Manufacturing Methods Procedures, some Process Specifications, and other detailed documents. As a major federal defense contractor, procedural compliance is a requirement for continuation of contracts. Procedural compliance is monitored by government representatives resident at the plant site and in-house teams.
3. Inspections. McAIR Environmental Compliance conducts recorded inspections of major storage areas for hazardous wastes and oil/hazardous materials. Daily inspections are conducted on hazardous waste container storage areas, above-ground waste tanks, and underground waste tanks. Spill containment and collection equipment trailer and storage bins are inspected weekly. Quarterly inspections are made on all PCB and PCB-contaminated electrical transformers. McAIR Environmental Compliance is also responsible for inspection of the two bulk fuel oil storage tanks near Bldg. 101. Other fresh product storage areas are inspected by the departments which control the product areas. The remaining single-wall underground product tanks are monitored for product loss by using departments. Interstitial monitors and double-wall underground tanks are being installed on a phase-in schedule that meets or exceeds EPA's schedule in 40 CFR 280. Inspection schedules for individual areas are noted in Attachment II.

4. Spill Alarms. Single-wall underground hazardous waste tanks are equipped with exterior (groundwater) hydrocarbon detectors and alarms. Double-wall underground tanks for fresh product and waste are equipped with interstitial leak detectors and alarms. Industrial sewer lines that serve chemical process tank areas (and associated storage tanks) are equipped with pH detectors which set off alarms. Environmental Compliance staff check some of these alarm panels daily, while others are located in occupied areas, and shop personnel are instructed to contact Environmental Compliance by telephone (or 24 hour pager) in case of alarm.
5. Permanent Spill Containment. A variety of permanent spill containment structures are employed, including double-wall tanks, containment pits, dedicated tanks for overflow, berms, curbs, and portable containment buildings. Single-wall underground tanks and outdoor PCB-contaminated transformers which lack spill containment are on a replacement/phase-out schedule described in Sec. 8 below. Spill containment for individual areas is described in Attachment II.
6. Project Spill Containment. For projects which involve a temporary risk of spills (ex. PCB transformer removals or tank removals), MCAIR requires the contractor to submit a project spill plan in advance for approval. That plan must describe spill prevention, cleanup materials to be staged at the site by the contractor, and procedures in case of incident.
7. Environmental Review of New/Modified Facilities. MCAIR Environmental Compliance reviews preliminary design drawings on all new or modified facilities. One of the items covered in that review is spill prevention or secondary containment equipment. If the preliminary design is inadequate, recommended changes are forwarded to the design engineer or Facilities management. For major facilities, an Environmental Compliance staff person is incorporated into the Facilities/customer team for that project.
8. Modification of Existing Facilities. Based on plant inspections by the spill prevention/response coordinator (Dept. 064C), actual spill incidents, and identification of potential problem areas by others, MCAIR Environmental Compliance is responsible for initiating Requests for Factory Orders and maintenance work requests for modifications to existing facilities. In some cases, improved spill prevention and containment can be achieved through physical modifications to existing facilities. In addition to ad hoc modifications, there are three major ongoing programs for risk reduction:
 - a. PCB Transformer Replacement and Retrofill of PCB-Contaminated Transformers. In 1984, MCAIR had an inventory of almost 140,000 lbs. of high-concentration PCB fluid in electrical equipment. Transformer replacements to date have cut this inventory by 25%. Additional transformer replacements are scheduled for 1991-1992, along with retrofill of PCB-contaminated (50-500 ppm) fluids.

b. Underground Tank Replacement. In 1987, MCAIR had 59 single-wall underground tanks in service. Fifteen of those have been replaced with double-wall tank systems, and the overall number of tanks has been reduced to 29. Remaining single-wall tanks are scheduled for removal or replacement with double-wall systems, based on risk of leakage and EPA's regulatory phase-in schedule.

c. Spill Containment for Drum Staging Areas. Portable spill containment structures have been purchased and installed at significant accumulation (less than 90 day) areas for hazardous waste drums, and staging areas for drums of fresh product. These will be relocated and/or additional structures purchased as operations relocate and change.

9. Preventative Maintenance. Preventative maintenance is an effective spill prevention measure. A formal preventative maintenance system and schedule are coordinated through Dept. 448G. Preventative Maintenance activities are performed by area maintenance personnel.
10. Spill Incident Documentation and Follow-Up. MCAIR Environmental Compliance employs a spill prevention/response coordinator, who documents spill incidents and follows up with the individuals responsible. In cases where human carelessness is involved, this follow-up with an employee's supervision is often an effective measure. Proper documentation of spill frequency and cause is also important in identifying needed changes in procedure or facility design. Spill documentation and site-specific planning are conducted using the CAMEO database, so that data can be provided in a format compatible with that used by the Local Emergency Planning Committee.
11. Just-In-Time Delivery. MCAIR's inventory of drums and smaller containers of fresh product has decreased dramatically since the 1988 Spill Prevention and Response Plan. Many chemicals and materials routinely used in manufacturing and maintenance are available on just-in-time delivery from the supplier. The reduction in on-site storage can be seen particularly in the very small Stores inventories at the Dope Houses.
12. Integrity Testing of Bulk Chemical Tanks. Both fresh product and waste acids and caustics are stored in bulk at the Bldg. 52 Chem Mill. In addition to daily inspection of these above-ground tanks, annual ultrasonic testing of tank wall integrity is conducted.

B. OIL/HAZARDOUS MATERIAL AND HAZARDOUS WASTE STORAGE FACILITIES

MCAIR Environmental Compliance maintains a computer database which contains information on major storage sites for oil/hazardous materials and hazardous wastes. This database contains information such as location and type of storage container or tank, chemical product and primary chemical constituents, maximum amount in storage, leak detection method, secondary containment, and probable spill route. A printout of the most relevant

fields is found in Attachment II. The facilities described in Attachment II are summarized below:

1. Bldg. 27 Container Storage for Hazardous Wastes (RCRA Permitted). Two segregated spill containment structures under one roof. The acid/alkali storage area has a max. capacity equivalent to 112 fifty-five gallon drums. The paint sludge, oil, and solvent storage area has a max. capacity equivalent to 224 fifty five gallon drums. A separate structure for reactive cyanide or sulfide wastes has its own 380 gallon spill containment structure, and has a max. capacity of 21 fifty-five gallon drums.
2. Bldg. 10 Waste Explosives Bldg (RCRA Permitted). This facility has no secondary containment, since no free liquids are permitted.
3. Underground Waste Jet Fuel Tanks (RCRA Permitted). There are five tanks with a total capacity of approximately 15,000 gallons. Tank 28E is of double-wall construction. The four others (Tank 45K, Ramp A-C) are required, under 40 CFR 264 Subpart J, to be integrity tested annually until replaced with secondary containment tanks. These four tanks must be replaced with secondary containment before they are 15 years old. Single-wall waste tanks are gauged daily and are equipped with exterior hydrocarbon sensors.
4. Above-ground Tanks for Waste Acids & Caustic (RCRA Permitted). There are three acid tanks (2550 gal. total) and two caustic tanks (20,000 gal. total) near the Bldg. 52 Chem Mill. They all have a containment curb with a drain to the Bldg. 14 wastewater pretreatment plant. Leaks are detected by daily visual inspection and a pH alarm in the industrial sewer.
5. Bldg. 14 Sludge Holding Tank (RCRA Permitted). This 120,000 gallon concrete in-ground tank is drained on a 5 year schedule for inspection of the synthetic liner, and levels are checked daily.
6. PCB Storage Building, Bldg 39A. This is a prefabricated metal building with integral spill containment structure, used for polychlorinated biphenyl materials stored for disposal. It provides 176 sq. ft. of secure indoor storage, with a 570 gallon spill containment capacity. The PCB containers are visually inspected weekly.

7. Bldg. 101 Container Accumulation Bldg. for Hazardous Wastes. This facility is limited to less than 90 day storage of hazardous waste containers. The shelter and spill containment curbs are divided into two areas, one for corrosives, the other for oils and solvents. Each containment area is served by an industrial sewer line to the wastewater pretreatment plant. Containers are visually inspected daily for evidence of leakage or deterioration.
8. Portable Spill Containment Structures for Hazardous Waste Drum Accumulation Areas. Two of the structures (Bldg. 2 and 276) have segregated containment pans, to accomodate staging of corrosives as well as oils/solvents. The others, at Bldgs. 40, 51, 90, and 245, are single cell units that are limited to accumulation of compatible oils and solvents.
9. Above-Ground Used Oil and Jet Fuel Accumulation Tanks. A 375 gallon waste oil tank at Bldg. 5 boilerhouse receives waste oil piped from a separator system. The steel tank is gauged daily by MCAIR Environmental Compliance staff, and is surrounded by an ashphalt spill containment berm. A 2000 gallon mobile tanker for off-spec jet fuel (to be burned at boilerhouse) is staged at the Hush House on the Ramp. An inflatable spill containment berm is used at the staging area, and the tanker is inspected daily by MCAIR Environmental Compliance.
10. Bldg. 120 Above-Ground Fuel Oil Tanks. A 100,000 gallon and a 50,000 gallon tank are protected by separate valved earthen dikes. These dikes are inspected regularly by MCAIR Environmental Compliance to ensure that valves are in closed position or to release accumulated precipitation.
11. Jet Fuel Loading Station. Cargo tankers of jet fuel are loaded into underground storage tanks at the offloading station at Bldg. 41. The station is also set up for rail shipments, though rail car offloading is highly unusual. The Bldg. 41 offloading station is equipped with a containment area for the cargo tanker, which leads to an underground separator and holding tank in case of spill.
12. Aircraft Fueling Pits. Fuel Pits 1 through 4 on the Ramp are designed so that any aircraft fuel overfills, leaks, or ruptures will drain to the concrete pit. Fuel Pits 1 and 2 are blind concrete pits. Fuel Pits 3 and 4 have additional fuel holding tanks (RCRA permitted tanks Ramp B & C) that receive fuel that enters the pit.

13. Above-ground Storage and Process Tanks for Metalworking Acids and Caustics. There are over 80 such tanks, with a combined capacity of approximately 130,000 gallons of acids and caustics at various concentrations. They are protected by means of containment curbing leading to an industrial sewer (or holding tank at Bldg. 276). These tanks are checked visually by using departments, and the industrial sewers are equipped with pH alarms to detect tank leakage. The wastewater pretreatment system that serves these tanks is equipped to neutralize small to moderate size acid or caustic discharges to industrial sewers. Further treatment is provided by a publicly-owned treatment works.
14. Above-ground Acid/Caustic Storage Tanks--Wastewater Pretreatment Plant. There are five tanks for acids and caustics at the Bldg. 14 pretreatment plant, with a total capacity of about 14,000 gallons. All have concrete base and curbing, and would discharge to wastewater influent for neutralization in the event of tank leakage.
15. Underground Fuel Tanks. There are 28 underground tanks for fresh fuel. Eleven of them are three years old or less, and are double wall containment tanks. Total capacity of underground fuel tanks is approximately 310,000 gallons, and includes gasoline, jet fuel, diesel fuel, and fuel oil. McAIR Environmental Compliance maintains the Underground Tank Management Plan, which prioritizes tanks for phased replacement or removal from service, integrity testing, retrofitting with automated leak monitors, and/or retrofitting with cathodic protection.
16. PCB Electrical Transformers. There are 23 PCB transformers, containing approximately 8190 gallons of high-concentration PCB fluid. Most are in interior substations with concrete floor and curb for spill containment. In addition, there are 10 transformers with minor PCB contamination (50-500 ppm.) containing 17,110 gallons in exterior substations, without concrete spill containment. A phase-out program for PCB electrical equipment at MDC St. Louis began in 1987, and is continuing.
17. Bulk Compressed Gases. The pressure vessels are located on McDonnell Douglas property, but are leased from the gas suppliers. Most of the compressed gases on site are inert or low-risk gases such as liquid nitrogen, argon, carbon dioxide, and helium. Liquid oxygen is stored at two locations. There are three propane tanks (2300 gal total) which are inspected weekly by McAIR Fire Services. Anhydrous ammonia is stored at five locations, in 500 or 1000 gallon size tanks. Chlorine is not stored anywhere on site in bulk, only in individual small cylinders.

18. Lubricating and Cutting Oil Tanks. There are 9 above-ground tanks located in the basement of Bldg. 27. They are in daily use, and are inside a containment area of concrete floor and curb. Combined capacity is 25,400 gallons.
19. Storage Areas for Drums/Small Containers Unused Chemical Products. Indoor shop storage areas for small containers generally do not have special spill containment structures. Minor spills on concrete flooring can be recovered without danger of release to the environment. There are, however, three central storage areas for drums/small containers of unused hazardous products. The "Dope Houses" at Bldgs. 39, 41, and 120 provide indoor or covered storage for these materials. Bldg. 39 has segregated drum storage for corrosives and oil/solvents. These drums are stored under awning-type structures, with asphalt pavement, containment curbs, and a blind sump to capture any spillage. Inside Bldgs. 39, 41, and 120 are a limited numbers of drums and many smaller containers. The storekeepers in these dope houses are bound by strict limitations on segregation of incompatible chemicals and quantities to be stored. The dope house buildings themselves do not have a secondary containment system other than the concrete floor and walls of the building. Since most containers are small and total inventories are limited by just-in-time delivery, there is limited opportunity for escape of spillage into the environment.

C. INITIAL INTERNAL SPILL/INCIDENT NOTIFICATION

MDC St. Louis has an internal "911" telephone notification system. Employees are to dial 911 for all fires, explosions, fuel and chemical spills, and medical emergencies. If the incident involves risk of environmental release, the 911 dispatcher contacts MCAIR Environmental Compliance staff, at work or at home.

The 911 notification system is modified slightly at MCAIR sites away from the main complex, where dialing 911 would result in the caller reaching community emergency services, rather than the McDonnell Douglas dispatcher. At these sites, posted directions read as follows:

"In the event of a fire, chemical release or personal injury, etc. report immediately by dialing 911.

For minor chemical spills, leaks that do not pose a direct threat to human life, health, property, or equipment, but are a threat to the environment, report immediately to MCAIR Fire Services by dialing 8-22285."

The net result is that for sites remote from the main plant, significant incidents trigger first response by the nearest community emergency services. McDonnell Douglas emergency personnel provide backup as needed. For minor environmental incidents, remote site personnel contact the Environmental Emergency Coordinator directly or by pager.

D. HAZARD ASSESSMENT

1. Initial Assessment. When the "911" or alarm box system is used for reporting an incident, the first responder at the scene will determine whether the incident is a major one that requires use of Emergency Plan 8 (Hazardous Material Accident/Incident). If it is, the MDC St. Louis Emergency Response Team (ERT) is activated. This team consists of the Emergency Control Officer (Vice-President or Director level), the Emergency Response Team Leader (Environmental Compliance Head), McAIR Fire Services, McAIR Guard Services, McAIR Occupational Safety and Health, Facilities Services, Material Division Hazardous Material Control, and a Vice-President or Director of Communications if necessary. In this case, initial on-scene hazard assessment will be performed by Fire Service responders, aided by the Emergency Response Team Leader or his designee from Environmental Compliance. These persons will also perform initial on-site assessment in case of an incident that does not trigger Emergency Plan 8 participation by all team members.
2. Information to be Gathered (40 CFR 264.56). The Spill Response Coordinator or ERT Leader will immediately identify the character, exact source, amount, and area extent of the release. The initial identification method will be to utilize visual analysis of the material or container and location of the release. If the released material cannot be identified, samples will be taken for analysis. The ERT Leader will assess possible hazards, direct or indirect, to property, human health, or the environment.

For initial hazard assessment, information will be obtained on the following:

- 2.1 The material spilled or released;
- 2.2 Location of the release or spillage of hazardous material;
- 2.3 An estimate of quantity released and the rate at which it is being released;
- 2.4 The direction in which the spill or vapor or smoke release is heading;
- 2.5 Any injuries involved;
- 2.6 Fire and/or explosion or possibility of these events.

E. EVACUATION AND SITE CONTROL

1. In-Plant Evacuation. McAIR Security Services is responsible for providing in-plant evacuation and site control. Security Service coordination with the Emergency Response Team Leader is described in Emergency Plan 8. Detailed procedures for evacuation are described in Emergency Plan 4. See References page 5, E9 and E10.
 - 1.1 If a highly flammable material is released (ex. propane or natural gas), then a decision, based on volume, immediate danger, and impending explosion, will be made concerning notifying or evacuating personnel in the surrounding area. Use of motor vehicles within this area will be restricted or eliminated to avoid ignition of the vapor.

- 1.2 For spills of liquid chemicals or fuels, an area of isolation will be established around the spill. The size of the area will generally depend on the size of the spill and the materials involved. If the spill is large and involves a tank or pipeline rupture, an initial isolation of at least 100 feet in all directions will be used. Small spills or leaks from a tank or pipe will require evacuation of at least 50 feet in all directions to allow cleanup, repair, and to prevent exposure.
 - 1.3 If the spill results in the formation of a toxic vapor cloud (by reaction with surrounding materials or by outbreak of fire) and it is released (due to high vapor pressures under ambient conditions), further evacuation will be enforced.
2. Off-Site Evacuation. MDC Security Services will be responsible for contacting local law enforcement agencies if the situation becomes serious enough to require evacuation of surrounding homes or businesses. Because winds in the area tend to vary, the quickest and most accurate assessment of meteorological conditions is accomplished by calling the MDC - St. Louis Flight Test Radio Tower at 22917 from 7 a.m. to 5:30 p.m., Monday through Friday. At other times, call the Airport Tower at 425-7228.

Off-site releases of "Extremely Hazardous Substances" listed in EPA regulations (40 CFR 355) are subject to additional notifications to the local emergency planning committee and Missouri Emergency Response Commission. This reporting requirement is described in the External Reporting section of this SMP, and is the responsibility of MCAIR Environmental Compliance.

3. Site Control. The following actions will be taken in the areas endangered by the incident:
- 3.1 Work in adjacent areas that may contribute to the hazard (welding, painting, aircraft or vehicular traffic) will be shut down immediately.
 - 3.2 All feed lines and additional equipment will be shut down as necessary and practical.
 - 3.3 Facilities Services will shut off utilities such as electricity or natural gas if necessary to prevent further hazard. This will only be done if directed by the Emergency Response Team Leader or Fire Services.
 - 3.4 Injured persons will be removed from the danger area by Emergency Response personnel with appropriate personal protective equipment. They will also decontaminate the injured if necessary to prevent danger to emergency medical personnel and facilities.
 - 3.5 Only those persons actively involved in containing, neutralizing, and eliminating the hazard or providing treatment to the injured will be allowed within the designated hazard area. MDC Security Services will rope off the area.

- 3.7 For larger incidents that involve activation of Emergency Plan 8, more formal control procedures are required. With the exception of guards and firemen, only persons possessing a special access identification card will be allowed to enter the secured areas of the accident/incident. All persons at the accident/incident scene will be required to wear the Emergency Response Team (ERT) colored vest. The Emergency Response Team Leader has the final authority for access. The ERT Leader will be identified at the scene by the ERT vest marked "Incident Command".
- 3.8 Periodic monitoring of contaminants or explosive atmosphere shall be performed in accordance with 29 CFR 1010.120.

F. NOTIFICATIONS TO NAVY FOR BLDG. 27 PROPERTY

McDonnell Douglas is a tenant on the Naval Weapons Industrial Reserve Plant (NWIRP), which includes Bldg. 27 and the land adjacent to it, including the Bldg. 39A storage areas for containerized hazardous wastes and PCB's. In the event of an incident involving destruction of this property or likely long-term contamination of the property, U.S. Naval representatives must be notified.

- | | |
|--|------------|
| 1. Crisis Management Coordinator
NAVPRO Executive Officer
Command Section, U.S. Navy | Sta. 22731 |
| 2. Chief, Property Management Branch | Sta. 29915 |
| 3. Safety Engineer
U.S. Navy | Sta. 23443 |

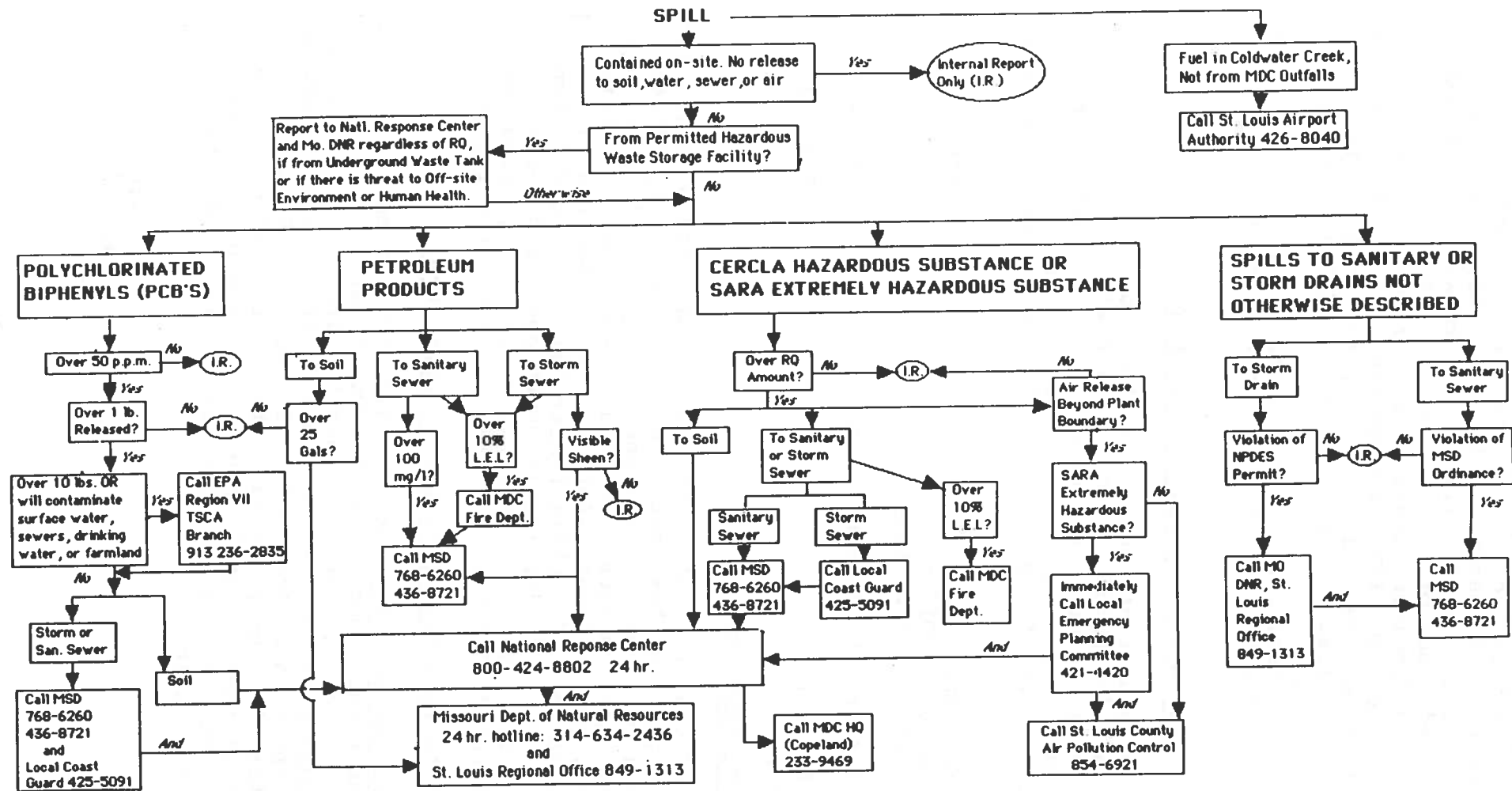
G. EXTERNAL NOTIFICATIONS

Numerous regulatory agency notifications are mandated by State and Federal law. Failure to provide these notifications in a timely manner may result in civil or criminal prosecution. Emergency Plan 8 outlines the major required notifications to agencies such as Missouri Department of Labor, County Medical Examiner, Occupational Safety and Health Administration, Nuclear Regulatory Commission, U.S. Public Health Service, and U.S. Department of Transportation. Notification requirements described below are only those that relate to environmental protection, specifically those notifications that are the responsibility of MCAIR Environmental Compliance Dept. 064C.

1. Reportable Releases of Hazardous Substances

- 1.1 Initial Notification. The U.S. Environmental Protection Agency has established Reportable Quantities for hazardous substances released into the environment. The listing of Reportable Quantities (RQ) is published in 40 CFR 302, a copy of which is maintained by Environmental Compliance Dept. 064C. See Flow Chart G-1 for required initial notifications. MCAIR Environmental Compliance will determine if a spill or release is reportable, and will provide the required external notifications.

SPILL NOTIFICATION CHART, MCAIR ST. LOUIS COUNTY



FLOW CHART G-1

1.2 Follow-Up Reports. A written follow-up report is not required to be submitted to the National Response Center. For permitted NPDES outfall spills, a follow-up report to Missouri Dept. of Natural Resources (DNR) is required, unless waived. For non-NPDES spills to surface water, a follow-up report to Missouri Dept. of Natural Resources is required if requested by DNR.

2. Oil/Petroleum Spills into Navigable Waters.

2.1 Initial Notification. Any spill which results in a visible sheen on a navigable waterway (such as Coldwater Creek) must be reported to the National Response Center and others. See Flow Chart G-1 for required initial notifications.

2.2 Follow-Up Reports. A written follow-up report is not required to be submitted to the National Response Center. For permitted NPDES outfall spills, a follow-up report to Missouri Dept. of Natural Resources (DNR) is required, unless waived. For non-NPDES spills to surface water, a follow-up report to Missouri Dept. of Natural Resources is required if requested by DNR. Under the SPCC provisions of the Clean Water Act, if a facility discharges more than 1,000 gallons of oil into or upon navigable waters in a single spill event, or "discharges oil in harmful quantities," such facility shall submit to the EPA Regional Administrator, within 60 days from time of incident, a complete report, giving full description of such incident and what corrective actions and countermeasures will be taken to minimize the possibility of recurrence.

3. Hazardous Waste Spills/Incidents in Permitted Drum Storage Areas or Above-ground Waste Tanks.

Spills or incidents involving one of the permitted hazardous waste storage areas are subject to unique notification requirements of 40 CFR 264.56. If a hazardous waste is released (regardless of the RQ of the substance) in such manner or amount as to "threaten human health or the environment, outside the facility" it is reportable.

3.1 Initial Notification. This type of release must be reported immediately to the National Response Center and Missouri Dept. of Natural Resources. The release may trigger additional notifications, as described in Flow Chart G-1.

3.2 Follow-Up Reports. In addition to any follow-up reports required under 1.2 and 2.2 above, there is a written report that must be submitted to the EPA Regional Administrator, Region VII and Missouri Dept. of Natural Resources within 15 days. See 40 CFR 264.56(j). The report must also be entered in the RCRA operating record in Dept. 064C files. Normal operations (incoming wastes) are suspended until such time that EPA and the State are notified that emergency equipment is cleaned and ready for use, and incompatible materials are removed.

4. Failure of Underground Hazardous Waste Tanks. Spills or incidents involving one of the permitted hazardous waste storage tanks are subject to unique reporting requirements of 40 CFR 264.196. The operator has 24 hours to remove the waste from the leaking tank or portion of the tank system.
- 4.1 Initial Notification. Unless the release is less than 1 lb and is immediately contained and cleaned up, the incident must be reported within 24 hours of discovery to the National Response Center or Regional Administrator, EPA Region VII Waste Mgt. Division, RCRA Permitting (913) 236-2888 and Missouri Dept. of Natural Resources. See Flow Chart G-1 for NRC and DNR phones.
- 4.2 Follow-Up Reporting. Within 30 days of detection of a release to the environment, a report must be submitted to EPA Region VII and Missouri Dept. of Natural Resources. See 40 CFR 264.196(d) for required contents.
5. Failure of Underground Petroleum Product Tanks. Suspected releases from petroleum product (fresh material) tanks must be reported within 24 hours. Under federal regulation 40 CFR 280.50, the single point of contact for reporting is Missouri Dept. of Natural Resources.
- 5.1 Initial Notification. The following conditions indicating a suspected release must be reported within 24 hours of discovery:
- a. Positive sample or hydrocarbon alarm from adjacent exterior or intersitial monitoring point.
 - b. Unusual operating conditions such as erratic behavior of product dispensing equipment, sudden loss of product, unexplained presence of water, or liquid/vapors at the site which are of unknown origin.
 - c. Evidence of product liquid or vapors in nearby soils, basements, sewer and utility lines, or nearby surface water.
 - d. Indication from gas chromatography or equivalent method that there is a concentration of at least 100 ppm total hydrocarbons in a soil sample.

Tank failure need not be positively verified to trigger the initial notification requirement. Notification is directed to:

UST Coordinator
Missouri Dept. of Natural Resources
P.O. Box 176,
Jefferson City, MO 65102 (314) 751-7929

- 5.2 Follow-Up Reporting. Suspected releases require an MDC release investigation and confirmation. A follow-up report to Missouri Dept. of Natural Resources is required in either case.
6. Polychlorinated Biphenyl (PCB) Spills. Spills or incidents involving PCB's areas are subject to unique notification requirements of 40 CFR 761.125, which are in addition to those imposed under the Clean Water Act or CERCLA Reportable Quantity notifications.
- 6.1 Initial Notification. See Flow Chart G-1.
- 6.2 Follow-Up Reports. In addition to reports required in 1.1 above, the EPA Regional office may require written descriptions and certification of decontamination. Cleanup documentation must be retained in MDC files for a period of 5 years. The scope of this documentation is found in 40 CFR 761.125.
7. Off-Site Releases of "Extremely Hazardous Substances". The EPA list of "Extremely Hazardous Substances" and associated Reportable Quantities is found in 40 CFR 355. Any release of an Extremely Hazardous Substance which is greater than a Reportable Quantity and involves a risk of exposure beyond MDC plant boundaries is subject to notification under the Superfund Amendment and Reauthorization Act (SARA). This SARA notification is in addition to any notifications required under 1.1 and 1.2 above.
- 7.1 Initial Notification. See Flow Chart G-1. The following items shall be included to the extent known at the time of the incident and so long as no delay in notice or emergency response results:
- a. The chemical name or identity of any substance involved in the release.
 - b. An indication that the substance is an "extremely hazardous substance".
 - c. An estimate of the quantity of any such substance that was released into the environment.
 - d. The time and duration of the release.
 - e. The medium or media into which the release occurred.
 - f. Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advise regarding medical attention for exposed individuals (recommend coordination with Dept. 064C).
 - g. Proper precautions to take as a result of the release, including evacuation.
 - h. The names and telephone number of the person or persons to be contacted for further information.

- 7.2 Follow-Up Reporting. As soon as practicable after the release, the local emergency planning committee shall be provided written emergency notice(s) setting forth and updating the information above, and including additional information on:
- a. Actions taken to respond to and contain the release.
 - b. Any known or anticipated acute or chronic health risks associated with the release.
 - c. If appropriate, advice regarding medical attention necessary for exposed individuals.
8. Other Releases to Sanitary Sewers. Some releases to sanitary sewers are not covered by one of the previous notification requirements, but can exceed sanitary sewer limits set in Metropolitan Sewer District (MSD) Ordinance No. 4786.
- 8.1 Initial Notification. See Flow Chart G-1. The notification shall include the location of discharge, type of waste, concentration and volume, and corrective action taken by MDC.
- 8.2 Follow-Up Reports. Within 5 working days following an accidental discharge, MCAIR Environmental Compliance shall submit a detailed written report to MSD describing the cause of the discharge and the measures to be taken by MDC to prevent similar future occurrences.
9. Other Releases to Storm Sewers and Surface Drainage. Some releases to storm sewer outfalls are not covered by one of the previous notification requirements, but may exceed a permit limit for one of the storm sewer outfalls permitted under the National Pollutant Discharge Elimination System (NPDES). These outfalls are permitted only for non-contact cooling water and stormwater runoff, so known releases of other materials or exceeding the numerical limits is sufficient to require reporting.
- 9.1 Initial Notification. See Flow Chart G-1.
- 9.2 Follow-Up Reporting. Unless such report is waived by DNR at the time of telephone reporting, a written report must be submitted within 5 days of discovery. See MCAIR's NPDES permit conditions for required content.

SECTION III

INCIDENT MITIGATION AND CLEANUP

A. FLOODING OR NATURAL DISASTER

Hazardous waste storage tanks and containerized storage areas are above the 100 year floodplain of Coldwater Creek (40 CFR 264.18). High water in Coldwater Creek can, in extreme situations, lead to localized flooding in Bldg. 2 basement and in the sanitary sewage trunk line at Bldg. 14. Neither area poses a significant risk of hazardous material release from flooding. Natural disasters such as tornado and earthquake are more likely to involve multiple hazardous material incidents. Emergency Plan 1 describes the procedure for identifying, isolating, and mitigating multiple hazardous material incidents in the context of a plantwide emergency.

B. FIRE AND/OR EXPLOSION

Hazardous waste storage tanks, hazardous waste container storage shelters, hazardous product tanks and large-quantity storage areas for product containers can be easily accessed by firefighting and other emergency vehicles and equipment. MDC - St. Louis has a "Pre-Fire Plan" for each building/facility that contains information on what is stored, where fire hydrants/other fire equipment are located, what action is to be taken by firemen and guards in the event of a fire, and what backup community fire departments are to be called.

MDC - St. Louis has its own Fire Services, which consists of a minimum of four firemen and one officer on duty at all times. The Fire Service force is larger during shifts when plant activity is at a maximum. MDC Fire Services are equipped with protective gear for entering and working in toxic atmospheres. These are described in Section III. As first responders to chemical incidents, the MDC Fire Department is required to have initial and refresher training under OSHA regulation 29 CFR 1910.120.

MDC Fire Services are designated first responders in all cases where there is risk of fire or explosion. Fire Services maintains control of response activities until such time as the fire/explosion hazard is under control. Flushing with large quantities of water or foaming of fuel/chemical spillage will be performed only if advised by a Fire Services officer. The Fire Services officer will determine when the fire/explosion hazard is under control and turn the incident over to MCAIR Environmental Compliance for mitigation and cleanup of any residual environmental hazard.

C. SPILLS OR MATERIAL RELEASE

1. In-House or Contractor Response. During the hazard assessment phase described in Section II, MCAIR Environmental Compliance will determine whether the severity of the incident warrants a response by outside spill cleanup contractor or by in-house maintenance crews. Generally, spill cleanup contractors will be called in on incidents which require Level A protective equipment for entry, and on incidents which require use of Level A or B equipment over an extended period of time for cleanup. Mar

incidents which require Level C or D equipment can be treated by MDC maintenance personnel, if equipment is available and the incident does not require the extensive training required under OSHA regulation 29 CFR 1910.

MCAIR Environmental Compliance is responsible for maintaining a response contract with outside spill response contractors. These contractors must be capable of responding in a short time with adequate equipment, and must document their ongoing training program to meet OSHA regulation 29 CFR 1910.120.

2. On-Site Spill Containment/Cleanup. Significant fixed storage facilities are equipped with structural spill containment. Cleanup of these areas will consist of pumping captured liquids into compatible containers, or absorbing or sweeping spilled materials within the containment area. Spills may occur outside these sites, however, especially during transportation of materials. For these incidents, timely containment and cleanup will prevent the spread of contaminants to a larger area. In either case, cleanup personnel will:

- 2.1 Make sure all persons not required stay clear of the hazard area.
- 2.2 Determine the major components in the material at the time of the spill.
- 2.3 Wear appropriate protective equipment.
- 2.4 If flammable material is involved, remove all ignition sources, and use spark and explosion proof equipment and clothing in containment and cleanup.
- 2.5 Obtain a confined space entry permit from Dept. 064 if needed;
- 2.6 If possible, stop the leak.
- 2.7 Remove all surrounding materials that could react with the hazardous material.
- 2.8 For acid spills, use a neutralizing agent to reduce the corrosive hazard.
- 2.9 Use absorbent pads, booms, earth, sandbags, sand, and other inert materials to contain, divert, and clean up a spill if it has not been contained by a dike or sump. Most spills contained within a dike or sump can be pumped into an appropriate storage tank or drum.
- 2.10 If the spill reaches a storm sewer, try to dam the inlet using sand, earth, sandbags, etc. If this is done, pump this material into a temporary holding tank or drums as soon as possible. If a spill enters the creek or has entered a storm drain, use absorbent booms and sweeps around the outfall to contain and absorb water-insoluble organics. See Section 4 below for more details.
- 2.11 Place all containment and cleanup materials in drums or portable tanks for proper disposal.

3. Releases to Industrial Sewers. For spills into industrial sewers, the Bldg. 14 wastewater pre-treatment plant operators will monitor the operation of neutralizing equipment (acid, caustic, and ferrous chloride), deploy absorbent materials in the final tanks (floating hydrocarbons), recirculate effluent for additional treatment, or take other action to prevent discharge of harmful substances into sanitary sewers.

4. Releases into Surface Drains or Storm Sewers. For minor releases that occur during dry weather, full or partial recovery of spilled material is possible at the manhole or drainage swale where the spill occurred. Failing that, there are intermediate manholes on the flight ramp and the Bldg. 2 parking lot where some recovery is possible, prior to entry into Coldwater Creek. Absorbent socks or contractor vacuum truck will be deployed at these locations by Environmental Compliance staff, if recovery is possible by these means.

For releases of oils, fuels, nonhalogenated solvents, and other floating hydrocarbons which have already reached or will inevitably reach a storm sewer outfall, the following site-specific procedures will be followed.

4.1 Tract I North

a. Outfall Location: Spills into any storm sewer drainage system in Tract I North will flow to NPDES Outfall 001. This outfall is located on the north side of McDonnell Boulevard, across from the Bldg. 27 parking lot. The effluent comes from under McDonnell Boulevard.

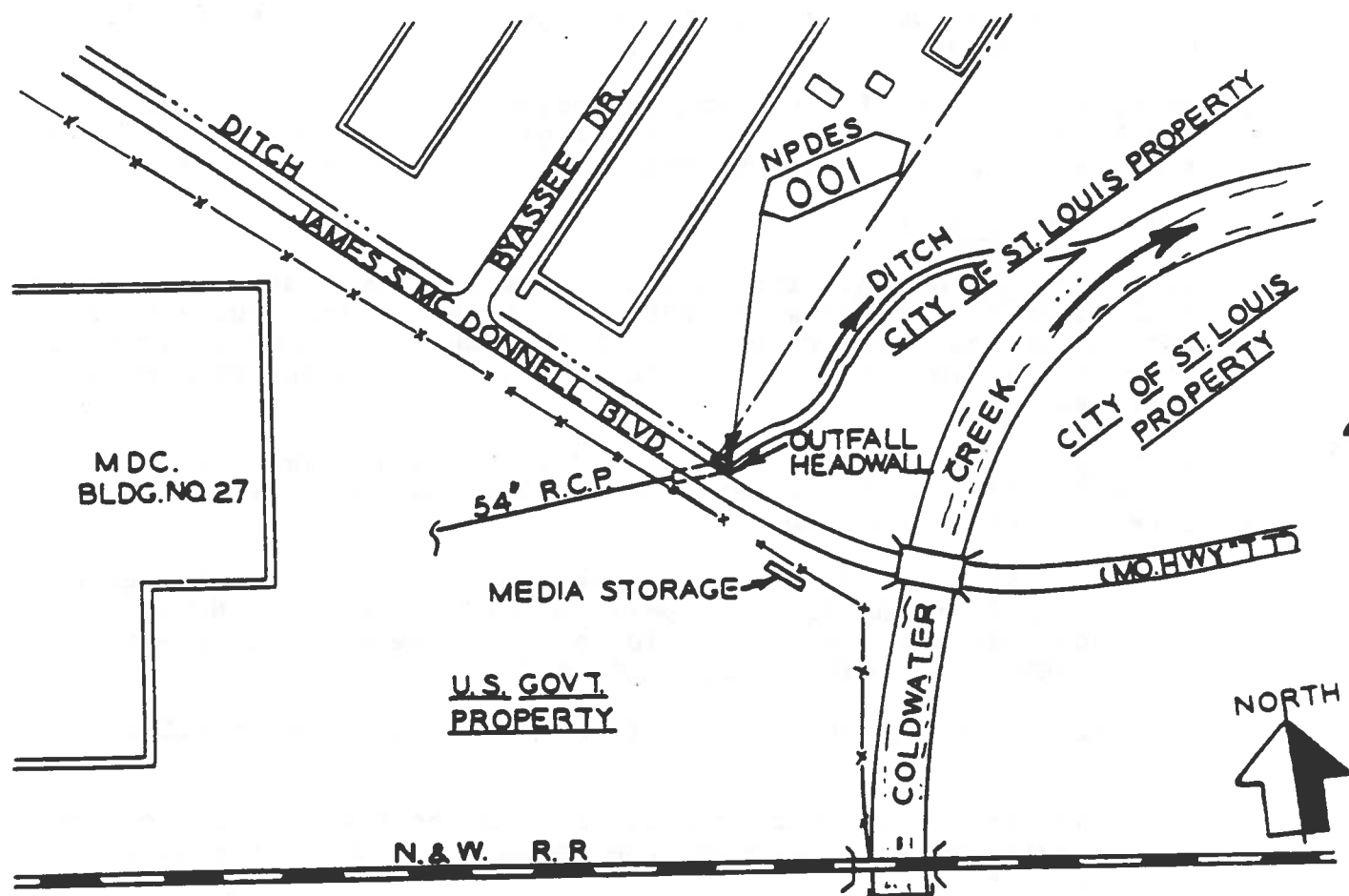
b. Action: Dept. 441D Facilities Services will, immediately after being notified of oil entering the storm sewers in Tract I North, take the following steps:

(1) Send Maintenance personnel to the absorbent storage box located in the Bldg. 27 parking lot southeast of NPDES Outfall 001. This wooden box is 10 feet by 3 feet and is identified as "EMERGENCY - OIL ABSORBING BOOM."

(2) Move absorbing media from the storage box to NPDES Outfall 001.

(3) Install absorbing media across the entire width of the flowing stream, allowing the media to float on the water surface.

(4) If this action does not contain the spill or if some spillage has already passed this point, then obtain the "Oil Spill Response Trailer" located at Bldg. 14. This trailer must then be towed to a downstream location, as described in 4.4 below.



Oil absorbing media is stored in a wooden box located in the MDC parking lot southeast of NPDES Outfall 001. This wooden box is 10 ft. long and 3 ft. high and is identified as "EMERGENCY - OIL ABSORBING BOOM".

4.2 Tract I South

a. Outfall Location Spills into storm sewers in Tract I South will flow to NPDES Outfalls 002, 003, or 004. Outfalls 002 and 004 enter Coldwater Creek in an underground conduit. Access to Outfall 003 is gained by entering the electrical substation (Bldg. 8) and then going into the Bldg. 9 pump house. Outfall 003 is the outlet of the stream flowing through the basement of Bldg. 9.

b. Action: Dept. 441A Facilities Services will, immediately when notified of a spill entering the storm sewers in Tract I South, take the following steps:

- (1) Send Maintenance personnel to the "Emergency Oil Absorbing Media" storage box located in the southeast corner of Bldg. 9 and install one (1) 10-foot boom across at this location.

- (2) Remove the remaining oil-absorbing booms from Bldg. 9 or the wooden storage box identified as "Emergency Oil Absorbing Boom" located in Parking Lot 3. Install in Coldwater Creek immediately north of Banshee Road. The boom must float on the water surface and reach the width of the flowing water.

- (3) If Step 2 does not contain the oil, then go to the storage box in Bldg. 27 parking lot labeled "Emergency Oil Absorbing Boom". Install the boom(s) in Coldwater Creek immediately south of McDonnell Boulevard.

- (4) If Step 3 does not contain the oil, then go to Bldg. 14, obtain the Oil Spill Response Trailer, and tow the trailer to a downstream location, as described in 4.4 below.

U.S. GOV'T.
PROPERTY

U.S. GOV'T
PROPERTY

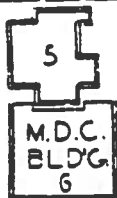
MCDONNELL BLVD

DITCH

002

N & W R.R.

BANSHEE ROAD



003

CTHP



36"

48" R.C.P.

004

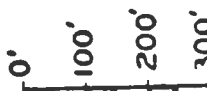
54" R.C.P.

M.D.C. PROPERTY LINE

STORM DRAINAGE

LAMBERT - ST. LOUIS
AIRPORT

COLDWATER CREEK



SCALE: 1"=300'

MCDONNELL DOUGLAS
CORPORATION

APPD.	M	6-2-71
APPD.	J.C.P.	6/1/71
DR. BY	J.R.H.	5/27/71

SITE MAP	
STORM WATER OUTFALL M.D.C. BLDGS. TRACT I	
NO. SKPE 1098	SH OF 3 3

4.3 Tract II

a. Outfall Location Spills into any storm sewer in Tract II will flow to NPDES Outfalls 006, 007, or 010. All of these outfalls ultimately discharge into a tributary of Coldwater Creek which flows north, parallel to Eva Avenue.

b. Action: Dept. 442A or 442D Facilities Services will, immediately when notified of a spill entering the storm sewer in Tract II, take the following steps:

(1) Send Maintenance personnel to Bldg. 14, obtain the Oil Spill Response Trailer, and tow the trailer to Tract II.

(2) Determine at which NPDES Outfall the discharge is occurring and take the Oil Spill Response Trailer there.

(3) Install absorbent or boom to prevent escape from MDC property.

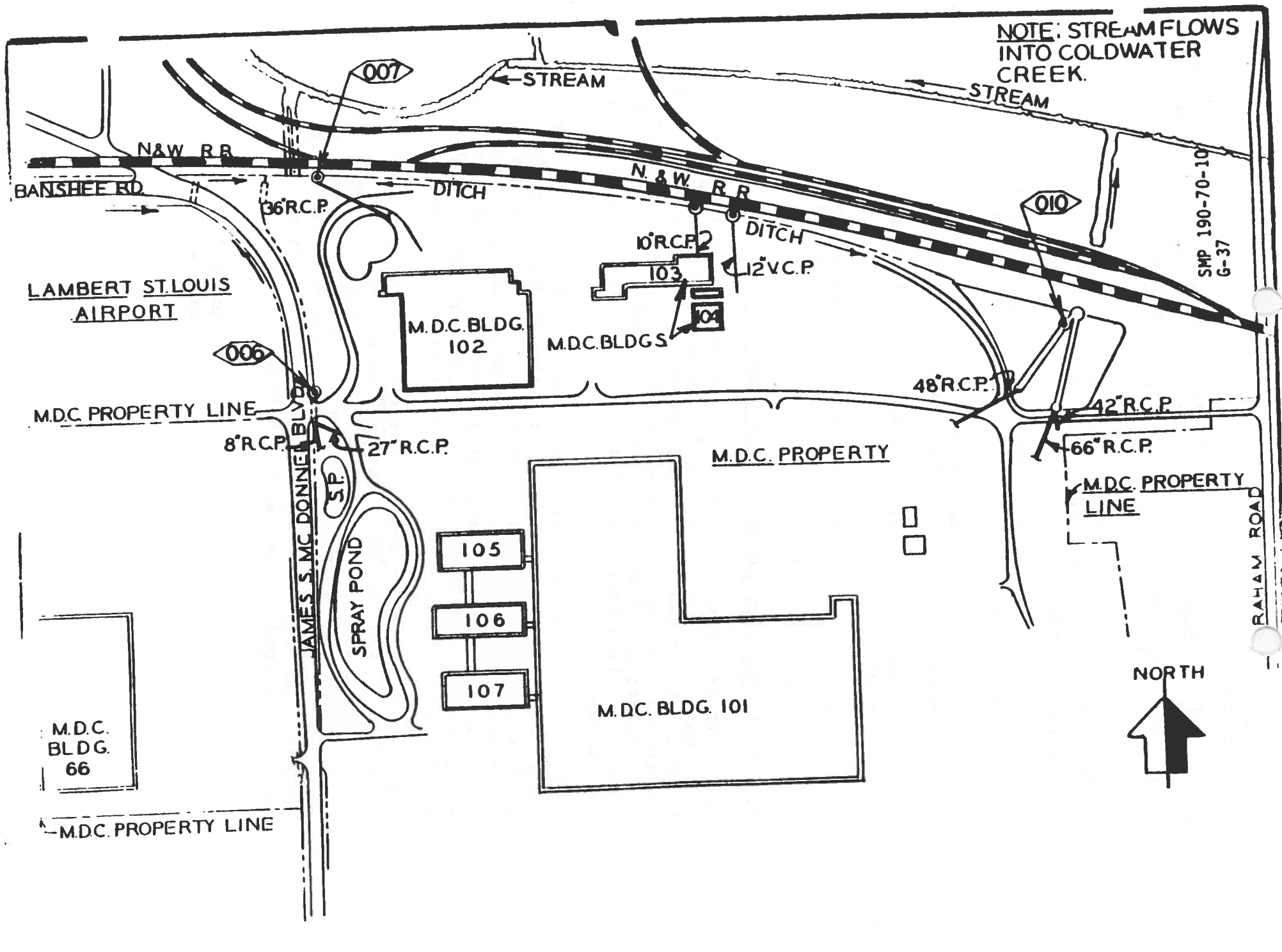
(4) If the discharge is already past these NPDES Outfalls, then proceed with the Oil Spill Response Trailer to a downstream location as described in 4.4 below.

4.4 Spill Recovery at Downstream Locations

a. If it has been LESS than two hours since the discharge at the MCAIR outfall, take the Oil Spill Response Trailer to the railroad trestle over Coldwater Creek northeast of the intersection of Eva Avenue and Frost Avenue. Install the boom(s) and begin recovery using floating skimmer or absorbents in Coldwater Creek. For Tract II spills, place recovery materials in the ditch immediately east of Eva Avenue.

b. If it has been MORE than two hours since the discharge at the MCAIR outfall, take the Oil Spill Response Trailer to the intersection of Coldwater Creek and Highway I-270 south service road (9000 Pershall Road). Install the boom(s) and begin recovery. Under baseline flow (dry weather) conditions, a discharge from Tract I will require at least 6 hours to reach Coldwater Creek and Pershall Road. Discharges from Tract II will require at least 7 hours.

4.5 Surface Spills at Other Locations. Relatively minor amounts of oils, fuels, and chemicals are used or stored at locations other than Tracts I and II. However, if surface spillage occurs at another location, the on-scene coordinator will utilize cleanup materials in MDC Fire Services response vehicles, the Environmental Compliance response vehicle, the Bldg. 14 oil response trailer, or cleanup materials staged at the remote location.



4.6 Spills into Soil. Most of the areas where oils, fuels, and chemicals are used or stored are either indoors or on pavement. Exceptions are some electrical substations and drainage ditches along public roadways that serve the plant. If an oil or hazardous material comes into contact with soil, maintenance personnel or cleanup contractors will remove contaminated soil and handle as hazardous or special waste. If soil removal is not adequate, soil venting, bioremediation, or groundwater cleanup must be pursued. This work will be directed by MCAIR Environmental Compliance, in concert with state and federal regulatory agencies.

D. PREVENTION OF RECURRENCE OR SPREAD OF FIRES, EXPLOSIONS, OR RELEASES [40 CFR 264.56(e)]:

Actions to prevent the recurrence or spread of fires, explosions, or releases include stopping processes and operations, collecting and containing released waste, and recovering or isolating containers. If the facility stops operations in response to an emergency, the Emergency Coordinator will monitor valves, pipes, and other equipment for leaks, pressure buildup, gas generation, or ruptures.

E. STORAGE AND TREATMENT OF RELEASED MATERIAL [CFR 264.56(g)]:

Immediately after an emergency, the MCAIR Environmental Compliance will make arrangements for treatment, storage, or disposal of recovered waste, contaminated soil, surface water, or any other contaminated material. Where cleanup is done by remedial contractor, Environmental Compliance staff shall review and approve all treatment, storage, and disposal methods.

F. INCOMPATIBLE WASTES [40 CFR 264.56(h)(1)]:

For incidents involving a MCAIR hazardous waste storage area, Environmental Compliance will ensure that no hazardous wastes which may be incompatible with the released material are stored there until cleanup procedures are completed.

G. POST-EMERGENCY EQUIPMENT MAINTENANCE [40 CFR 264.56(h)(2)]:

After an emergency event, all emergency equipment will be cleaned so that it is acceptable for use or it will be replaced. See Section IV for decontamination procedures. For permitted hazardous waste storage areas, Environmental Compliance must notify EPA Region VII and Missouri Dept. of Natural Resources that emergency equipment is operational before resuming normal operations in the affected area of the facility.

SECTION IV

DECONTAMINATION PROCEDURES FOR EQUIPMENT AND PROTECTIVE GEAR

A. DECONTAMINATION REQUIREMENTS

For spills of toxic, corrosive, or environmentally persistent chemicals, a formal decontamination procedure is needed to prevent the spread of contaminants from the incident site to clean areas. Careless decontamination can result in tracking of contaminants on rubber tires or footwear, or in secondary exposure from contaminated respirators or protective gear.

Disposable protective equipment (Tyvek or Saranex suits) is helpful in reducing the risk of secondary exposure and is recommended so long as it offers adequate protection. Disposable equipment is no substitute, however, for proper site control and decontamination procedures.

B. DECONTAMINATION DURING MEDICAL EMERGENCIES

Depending upon the hazard of the chemical involved and the severity of injury, patient decontamination may be required prior to transporting injured parties to a medical facility.

1. Corrosives. Emergency eyewashes and showers are strategically located in areas where strong corrosives are used or stored. They are checked weekly to ensure proper functioning by using departments. They are of value in reducing the severity of corrosive burns, both to the patient and persons who assist the injured. If the corrosive burn is the primary injury, the victim should be rinsed at the site prior to transportation.
2. Heat Stress. Use of chemical protective equipment can contribute to heat-related illness. If the protective equipment is contaminated, it should be removed during initial first aid, and left at the contamination site.
3. Non-Corrosive Chemicals. Some non-corrosive chemicals, such as PCB's and chlorinated solvents, do not evaporate readily and will contaminate stretchers, ambulances, first aid stations, and a hospital emergency room if not removed or contained. In cases where the injury allows time for removal of outer protective equipment or contaminated garments, they should be removed and left at the incident site. In case of severe injury, contamination can be controlled by wrapping the patient in plastic, rubber, or blankets to help prevent contamination of ambulances and medical personnel. In these cases, on-scene response personnel should brief on-scene medical personnel on the hazard posed by the chemical or accompany the contaminated victims to the medical facility.

C. SITE CONTROL AND WORK ZONES

Translocation of contaminants can be reduced or eliminated in a number of ways:

1. Set up security and physical barriers to exclude non-response personnel from the general area.
2. Minimize the number of personnel and equipment on site, consistent with safe operation.
3. Establish work zones at the site. For incidents where decontamination will be necessary, an Exclusion Zone, a Contamination Reduction Zone, and a Support Zone will provide the necessary control:
 - 3.1 Exclusion Zone. This is the zone where contamination of equipment or personnel does or could occur. All persons in this zone must be equipped with protective equipment appropriate to the hazard level.
 - 3.2 Contamination Reduction Zone. Outside the Exclusion Zone is a buffer zone, where decontamination takes place. Typically, one or two decontamination corridors are set up, and access through the zone is limited to these control points.
 - 3.3 Support Zone. Outside the Contamination Reduction Zone is the uncontaminated Support Zone. Support equipment and command post are located in this zone, and traffic is restricted to authorized response personnel.
4. Establish control points in a manner to regulate access to work zones.
5. Conduct operations in a manner that reduces the exposure to personnel and equipment and eliminate the potential for airborne dispersion.

There are detailed protocols for establishment and use of work zones. MDC first responders shall, under Emergency Plan 8, obtain in-depth training in site control and decontamination. See References page 3, E10.

D. DECONTAMINATION IN NON-MEDICAL EMERGENCIES

The initial decontamination plan assumes all personnel and equipment leaving the Exclusion Zone are grossly contaminated. A system is established for personnel decontamination of all the protective equipment used. This is done with a sequential doffing of protective equipment, starting at the first station with the most heavily contaminated item and progressing to the last station with the least contaminated article.

If disposable garments are worn, decontamination can be omitted, but a sequential doffing of equipment is critical, and contaminated gear must be collected before leaving the decontamination zone.

The original decontamination plan must be adapted, depending on the type of contaminant, amount of contamination, level of protection (Level A, B, or C), type of work performed by the worker in the Exclusion Zone, location of contamination on the body, and reason for leaving the Exclusion Zone.

MDC first responders are required, under Emergency Plan 8 and 29 CFR 1910.120, to receive training, detailed procedures, and field practice in decontamination.

SECTION V

AVAILABLE RESOURCES FOR HAZARDOUS INCIDENT/OIL SPILL RESPONSE

A. FIRE SERVICES

MDC-St. Louis Fire Services, is staffed with a minimum of four firemen and one officer on duty at all times on weekdays, and three firemen and one officer on weekends and holidays. Fire Services equipment consists of: three Class A structural pumpers; two crash trucks with 2,000 gallons of water and 210 gallons of foam; one truck with 1,000 pounds of dry chemicals.; one truck with 500 lbs. of Halon, one utility van; one car; three pickup trucks; a trailer with 20 bags of oil-absorbent material; and a Hazardous Material response trailer. MDC - St. Louis has a "Pre-Fire Plan" that describes what is stored at each building, where fire hydrants are located, what action is to be taken by firemen and guards in the event of a fire, and what backup community fire departments are to be called.

B. SECURITY/GUARD SERVICES

MDC - St. Louis has a security guard service of more than two hundred people, providing 24 hour security service. The guards are licensed as Armed Security Officers by the St. Louis County Police Department and have the authority to make arrests. The security guards and firemen constitute the local authorities in incidents on MDC properties.

C. HOSPITALS

For emergencies requiring hospitalization, MDC-St. Louis uses services provided by Christian Northwest and Deaconess Hospitals for "non-burn" emergencies and St. John's Mercy Hospital for "burn" emergencies.

D. MDC MEDICAL FACILITIES

St. Louis MDC facilities are serviced by four first aid stations and a central medical care unit staffed by 15 nurses. In addition, an on-site Emergency Medical Response Mobile Unit, staffed with a paramedic and emergency medical technician (EMT), is provided twenty-four hours per day, seven days a week. Macon Medical Center provides physician coverage at the plant site on the day and evening shifts five days per week. Macon Medical Center physicians are on the staff of both Christian Northwest and Deaconess Hospitals. The physicians are on 24 hour call, seven days a week. The hazardous materials used at the plant are covered by data sheets available in work sites and from MCAIR Occupational Safety and Health Services. If it is necessary to transport an injured employee to the hospital, a Macon Medical Center physician is contacted for instructions and the hospital is notified of the type of injury or exposure. The physicians and nurses are aware of the hazardous material in their areas and can assist the hospitals.

E. SPILL RESPONSE/ENVIRONMENTAL CLEANUP CONTRACTORS

MCAIR Environmental Compliance maintains ongoing emergency service contracts with outside firms which specialize in hazardous spill response and cleanup. St. Louis is a highly competitive market for spill response contractors, and there are several full-service contractors who are able to respond rapidly with crews and equipment. In order to be eligible to perform this type of work, the contractor must demonstrate an ability to respond to the St. Louis site in timely manner with adequate equipment and personnel. The contractor must also demonstrate compliance with OSHA regulations and training requirements in 29 CFR 1910.

F. MAINTENANCE PERSONNEL

In-house maintenance personnel who perform certain specialized routine tasks, such as chemical transfer and process tank cleaning, are trained in use of respirators and chemical protective equipment. If a release occurs during maintenance operations, and maintenance workers involved are already wearing adequate personal protective gear, they should take action to stop or slow the release, if they can do so without risk. Ordinarily, however, first response to an incident is handled by MDC Fire Services. When the release requires cleanup beyond initial response, Fire Services will turn command of the incident over to Environmental Compliance. Environmental Compliance will use environmental contractors (E. above) and/or in-house maintenance personnel as appropriate. If the cleanup requires use of Level A or B protective equipment over an extended period of time, or specialized environmental training, maintenance crews will not be used.

G. EQUIPMENT LISTS FOR OIL/HAZARDOUS MATERIAL INCIDENT RESPONSE

1. Bldg. 27 Parking Lot Spill Containment Equipment

In parking lot #3, near the McDonnell Blvd. bridge over Coldwater Creek, is a wooden box marked "Emergency Oil Absorbing Boom". The box is 10 feet long by 3 feet high. It contains:

- 50 feet of rope
- One 5 lb. hammer
- Four oil-absorbing booms, 8 inch diameter by 10 feet long each
- Four 3 foot long metal stakes

2. Bldg. 9 Spill Containment Equipment

Inside Building 9 at the southeast corner, ground level, is a metal box labeled "Emergency Oil Absorbents". It contains:

- One bale of 100 absorbent pads
- One bale of 10 absorbent pillows
- Four oil absorbent booms, 8 inch diameter by 10 feet long each
- 50 feet of rope
- One bucket
- One janitorial mop wringer
- Four Tyvek suits
- Four pair of rubber gloves
- One box of trash bags
- Two pair of knee-length boots

Adjacent to the box is a large engine-driven oil skimmer.

3. Oil Spill Response Trailer

A trailer marked "Oil Response Trailer" is parked at Bldg. 14 wastewater pretreatment plant. This trailer requires an automobile or truck equipped with a ball-type hitch and light hook-ups to move to the work site. The trailer contains:

- One bale of 100 absorbent pads
- One bale of 10 absorbent pillows
- Four oil absorbent booms, 8 inch diameter by 10 feet long each
- One oil skimmer
- Two discharge hoses, 100 foot each
- Two mop buckets
- Two 55 gallon open-top drums
- Two pair of hip boots
- Two full-face shields
- One box of Tyvek suits
- Four pairs of rubber gloves
- One spool of rope
- One 5 lb. hammer
- Six 3 ft. metal stakes
- Two mop wringers
- Acid-resistant mini boom, 50 ft. by 4 inch
- Stander containment boom, 50 ft. by 4 inch
- One box trash bags
- Two pair of knee-length boots

4. Fire Services Emergency Response Van (Unit #239). This step van is parked at the Bldg. 2 Fire Station. It is equipped with both radio and cellular car telephone. The equipment inventory includes:

a. Right Side:

Three 30 minute Scott air packs
One Stokes stretcher and board
One valve wrench
One aircraft crimping tool
One rubber mat and roll of sal plastic
One hazardous material emergency repair kit

Two smoke ejectors
One 5 lb. dry chemical extinguisher

b. Left Side:

Ten squeegee handles
One scraper
Three shovels
One compressed air bottle on cart
Two bags of dry sweep
One portable generator (4000 watt)
Four electrical wire wheels
Fourteen Scott air cylinders
One box breathing air regulator valve and accessories

c. Cab:

One hand lantern
Two and half bags of dry sweep
One sprinkler plug
Assorted elevator keys
Emergency response reference books

Binoculars

d. Cabinet #1:

One Incident Command vest
Five respirator masks
Box of assorted respirator cartridges
One clip board and tablet
One box of Poly-D gloves
One bag white disposable gloves
Four rolls banner guard
One bag of mylar suits
One bung wrench
One 5 gallon pail "plug and dike"
Two rolls tape for taping suits
Ten green suits
Three radiation meters
One dosimeter charger
Six dosimeters
Three pair of electrician gloves

Four pair of acid suits
Seventeen assorted Tyvek suits
One pair of acid pants
Three Phyorian paper dispensers
Ten pair rubber gloves

e. Cabinet #2:

Three Ska-Pak emergency escape units
Three 50 ft. air lines
One 25 ft. air line
Two haz. matl. patch kits
Three bags of dry sweep
Two bags of soda ash
Disposable plastic bags
One decontamination box

f. Cabinet #3:

One body bag
One safety helmet
One can G-1 powder
Six rope packs
One rescue harness
Two safety belts
One bag of rescue gear
One first aid kit
One pick head axe
One set of wrislets
One rescue axe
One LEL meter

g. Cabinet #4:

Two 4-way junction boxes
One electrical hand light
Seven pair rubber boots
Two boxes rubber gloves
Four face shields
Four flood lights
Two 100 ft. extension cords
Four disposable blankets
One harness cutter
One bolt cutter

h. Cabinet #5

One chain
Box of 6 flashing lights
One tool kit
One valve wrench
One piece 1" pipe
One box batteries
Two smoke ejector holders
One tile lifter
One Skill saw
One set cable lifters w/stokes
One stretcher
Thirteen dispos. filter masks

SMP 440-70-10

5. Fire Services Haz Mat Trailer (Unit T-239). This trailer is parked at the Bldg. 2 Fire Station, and can be towed with Fire Services vehicles to the incident scene. The equipment inventory includes:

a. Front & Middle Section:

Three recovery drums with plastic liners
One 55 gal. drum with plastic liner
Two large scoop shovels
Two 10 lb. sledge hammers
Six orange marker cones
Two pkgs. 18" square absorbent pads, approx. 300 total
One 25 ft. coil 1-1/2 inch plastic hose
one pair quick disconnects for above hose
One manually operated acid pump
One 55 gal. drum dolly
One skimmer set

b. Left Side:

One 75 lb. compressed air bottle w/stand (full)

One 5 gal. Bucket Plug & Dike

c. Top of Cabinets:

Two dozen pair large black gloves

Twelve Saranex suits XXL

d. Wood Cabinets:

One 5 lb. rubber mallet
Two 24" pipe wrenches
Two 14" pipe wrenches
other hammers, sledges, pliers, wrenches, socket sets
screwdrivers, hand tools
One 100 ft. steel tape
One box of 8 large Saranex suits
One box of 12 extra large Saranex suits

Five pair Size 10 rubber knee-length boots

One pair Size 12 rubber

Knee-length boots

Seven large rain suits

Four XLarge rain suits

Seven XXL large rain suits

e. Steel Cabinet

Thirteen Large Saranex jackets

Twelve XLarge Saranex jackets

Six XXL large Saranex jackets

Three 6 volt hand lanterns

Two pkgs. lead wool

One emergency handling manual

f. Right Side Steel Cabinet:

Two Stop signs, two Slow signs

Eight hard hats

Two orange command vests

Three button goggles

One stethoscope

Six MSA spectable kits

One pair fit-all rubber boots

Full-face respirators & cartridges for pesticides and organic vapors

Two electric filter pumps

Six rolls assorted tape

Box and open-end wrenches

g. Wood Cabinet on Right Side:

One large bolt cutter

One spray tank pressure hand pump

Eleven wooden stakes

Box of assorted wooden plugs

Box of duct tape

Biohazard spill kit

Eight XLarge rain gear

Three dozen PVC rubber gloves

Thirteen pair light rubber gloves

Nine XLarge Acid Suits

Three full protection suits (Scott hookup)

Twelve large Tyvek suits

Twelve XLarge Tyvek suits

Six pr. electric rubber gloves

h. Compartment under Left Side:

Box of 4 diaphragms for Buna pumps

One chemical transfer pump

i. Compartment under Right Side:

One push broom

One chemical transfer pump

6. Environmental Compliance Emergency Response Vehicle. This automobile is used for a variety of environmental functions, but is equipped for and designated for emergency response. This vehicle contains:

Two Scott air packs.

One fully-encapsulating Level A suit.

Two full-face cartridge respirators and cartridges.

Protective suits, boots, and gloves.

Sampling equipment, pH paper.

7. Equipment and Materials for Spill Containment and Cleanup at Other Plant Locations.

Drums, fifty-five (55) gallon, with polyethylene liners (DOT 37M). Bldg. 27 and 101 hazardous waste shelters.

Drums, fifty-five (55) gallon, mild steel (DOT 17E and 17H). Bldg. 27 and 101 hazardous waste shelters.

Carboys, five (5) gallon, polyethylene, new, with cardboard carton (DOT 2U carboy and DOT 12P carton). Bldg. 27 and 101 hazardous waste shelters.

Recovery (salvage) drums, 85 gallon steel. Bldg. 27 hazardous waste shelter.

Pumps, transfer, portable acid resistant. Maintenance shops, Tracts I, II, and IV.

Wrenches, bung. Bldg. 27 and 101 hazardous waste shelters, maintenance and production shops.

Caddy-Drum for fifty-five (55) gallon drum. Bldg. 27 and 101 hazardous waste shelters.

Fork lifts. Maintenance shops in all Tracts, loading docks.

Attachment - drum lift, for fork lift truck. Bldg. 27 and 101 hazardous waste shelters, maintenance shops.

Tank - mobile, unlined stainless steel, five hundred (500) gallon capacity. Tract I.

Tank - mobile, chlorobutyl lined, stainless steel, one thousand (1,000) gallon capacity. Tract I.

Soda ash, commercial grade (Material Code No. 183-32180 - 100 lb. bags). Bldg. 27 and 101 hazardous waste shelters, Bldg. 39 Dope House.

Oil-absorbent compound (Material Code No. 185-31516 - 50 lb. bags). Bldg. 27 and 101 hazardous waste shelters, Bldg. 39 Dope House.

Emergency Chemical Transfer Kit. Consists of mobile cart with acid pump, hoses, hand tools, hose fittings, barricade tape, personal protective equipment, etc. See SMP 440-70-12. Bldgs. 27, 52, 101, 220, and 276.

Personal Protective Equipment:

Tyvek and Saranex Disposable Chemical Resistant Suits/ Chemical goggles and face shields/ Boots, gloves, cartridge respirators and cartridges, chemical resistant aprons, air line respirator equipment. Tools cribs in all Tracts.

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STORAGE	P R E M S	T E M P	TRADENAME	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM LBS.	OVER RQ?	OVER HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAINMENT?	PROBABLE SPILL ROUTE
** BLDG HQ UG TANK A	B	1	4	DIESEL FUEL	.F.	670 GAL	7.33	4911	.T.	.F.	INVENTORY CONTROL	NONE	SOIL & GROUND WATER
UG TANK B	B	1	4	UNLEADED GASOLINE	.F.	5076 GAL	6.11	31014	.T.	.F.	INVENTORY CONTROL	NONE	SOIL & GROUND WATER
** BLDG 001 UG TANK B	B	1	4	UNLEADED GASOLINE	.F.	8000 GAL	6.11	48846	.T.	.F.	ELECTRONIC INVENTORY CONTROL	NONE	SOIL & GROUND WATER
** BLDG 002 AG TANK 2-2	A	2	7	ANHYDROUS AMMONIA	.T.	1000 GAL	5.16	5160	.T.	.F.	ODOR-MED OCCUPANCY	NONE	VAPORIZATION
COL 10F	R	1	5	PCB TRANSFORMER	.F.	245 GAL	13.00	3200	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
COL 10F	R	1	5	PCB TRANSFORMER	.F.	305 GAL	13.00	3960	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
COL 10B	R	1	5	PCB TRANSFORMER	.F.	245 GAL	13.00	3200	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
COL 10B	R	1	5	PCB TRANSFORMER	.F.	305 GAL	13.00	3960	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
COL 25F	R	1	5	PCB TRANSFORMER	.F.	245 GAL	13.00	3200	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
COL 25F	R	1	5	PCB TRANSFORMER	.F.	385 GAL	13.00	5000	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
COL 25BBC	R	1	5	PCB TRANSFORMER	.F.	245 GAL	13.00	3200	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
COL 25BBC	R	1	5	PCB TRANSFORMER	.F.	385 GAL	13.00	5000	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
COL 26C	R	1	5	PCB TRANSFORMER	.F.	154 GAL	13.00	2000	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR, WOOD CURB	CONTAINMENT
DRUM SHELTER	D	1	4	WASTE SOLVENTS, OIL S, CORROSIVES	.T.	800	0.00	0	.T.	.F.	VISUAL-HI OCCUPANCY	DIVIDED CONTAINMENT	CONTAINMENT
** BLDG 003 BASEMENT	R	1	5	PCB TRANSFORMER	.F.	173 GAL	13.00	2250	.T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
** BLDG 005 UG TANK D	B	1	4	#2 FUEL OIL	.F.	20000 GAL	7.33	146600	.T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK	CONTAINMENT
UG TANK E	B	1	4	#2 FUEL OIL	.F.	20000 GAL	7.33	146600	.T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK	CONTAINMENT
AG TANK	A	1	4	WASTE OIL	.F.	375 GAL	7.20	2700	.T.	.F.	DAILY INSPECTION	ASPHALT BERM	CONTAINMENT

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S	T R A D E N A M E	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
EAST OF BOILER HOUSE	R	1 5	PCB TRANSFORMER	.F.	385 GAL	13.00	5000 .T.	.F.	QUARTRLY INSPEC & HI OCCUPANCY	PAVED AREA ONLY	INDUST. SEWER
** BLDG 008 SUB-STATION 8	R	1 5	PCB CONTAM. TRANSFORMER	.F.	1060 GAL	7.20	7632 .T.	.F.	QUARTERLY INSPEC	NONE	CONCRETE PAD, THEN SOIL
SUB-STATION 8	R	1 5	PCB CONTAM. TRANSFORMER	.F.	847 GAL	7.20	6098 .T.	.F.	QUARTERLY INSPEC	NONE	CONCRETE PAD, THEN SOIL
SUB-STATION 8	R	1 5	PCB CONTAM. TRANSFORMER	.F.	760 GAL	7.20	5472 .T.	.F.	QUARTERLY INSPEC	NONE	CONCRETE PAD,, THEN SOIL
SUB-STATION 8	R	1 5	PCB CONTAM. TRANSFORMER	.F.	7100 GAL	7.20	51120 .T.	.F.	QUARTERLY INSPEC	NONE	CONCRETE PAD, THE SOIL
** BLDG 014 UG TANK A	B	1 4	HAZ WASTE SLUDGE, F006	.F.	120000 GAL	10.90	1308000 .T.	.F.	LINER INSPECTION, 5 YR CYCLE	SYNTHETIC LINER	SOIL & GROUND WATER
AG TANK 14-1	A	1 4	SULFURIC ACID (70%)	.T.	3600 GAL	13.43	48339 .T.	.F.	DAILY OPERATOR INSPECTION	CONCRETE CURB	INDUST. SEWER
AG TANK 14-2	A	1 4	SODIUM HYDROXIDE (50%)	.F.	4200 GAL	12.76	53593 .T.	.F.	DAILY OPERATOR INSPECTION	CONCRETE CURB	INDUST. SEWER
AG TANK 14-3	A	1 4	SULFURIC ACID (70%)	.T.	2000 GAL	13.43	26855 .T.	.F.	DAILY OPERATOR INSPECTION	CONCRETE CURB	INDUST. SEWER
AG TANK 14-4	A	1 4	FERROUS CHLORIDE	.F.	2000 GAL	16.10	32192 .T.	.F.	DAILY OPERATOR INSPECTION	CONCRETE CURB	INDUST. SEWER
AG TANK 14A-1	A	1 4	FERROUS CHLORIDE	.F.	2250 GAL	16.10	36225 .T.	.F.	DAILY OPERATOR INSPECTION	CONCRETE CURB	INDUST. SEWER
** BLDG 020 SUB-STATION 20	R	1 5	PCB CONTAM. TRANSFORMER	.F.	1654 GAL	7.20	11909 .T.	.F.	QUARTERLY INSPEC	NONE	SOIL
SUB-STATION 20	R	1 5	PCB CONTAM. TRANSFORMER	.F.	1654 GAL	7.20	11909 .T.	.F.	QUARTERLY INSPEC	NONE	SOIL
SUB-STATION 20	R	1 5	PCB CONTAM. TRANSFORMER	.F.	1654 GAL	7.20	11909 .T.	.F.	QUARTERLY INSPEC	NONE	SOIL
SUB-STATION 20	R	1 5	PCB CONTAM. TRANSFORMER	.F.	2153 GAL	7.20	15502 .T.	.F.	QUARTERLY INSPEC	NONE	SOIL
** BLDG 022 UG TANK D	B	1 4	LEADED GASOLINE	.F.	8000 GAL	6.11	48880 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK	CONTAINMENT
UG TANK B	B	1 4	UNLEADED GASOLINE	.F.	10000 GAL	6.11	61057 .T.	.F.	INVENTORY CONTROL	NONE	SOIL & GROUND WATER
UG TANK C	B	1 4	DIESEL FUEL	.F.	10000 GAL	7.33	73300 .T.	.F.	INVENTORY CONTROL	NONE	SOIL & GROUND WATER
AG TANK 22-1	A	2 4	PROPANE	.F.	203 GAL	0.00	1000 .T.	.F.	WEEKLY VISUAL INSPECTION	NONE	VAPORIZATION

ATTACHMENT I
EMERGENCY COORDINATORS--RCRA CONTINGENCY PLAN

Regulations governing the hazardous waste storage facilities require that an Emergency Coordinator and Alternates be identified by name. The following persons have primary responsibility for incidents involving hazardous waste storage facilities, and should be contacted internally via "911" in case of emergencies or at office telephone/pager numbers for routine work. "Off duty" phone numbers are provided for use by external regulatory authorities.

Primary RCRA Emergency Coordinator
Dept. 064C, Environmental Compliance

8-235-2498

8-841-3879

In house personnel use pager

External personnel use pager

Gary Heller (314) 232-3319 (0630-1500 M-F) (314) 327-5324 (off duty)

Alternate

Joseph Haake

232-3319 (0730-1600 M-F)
D 064C/ 033/0341000

(314) 344-4317 (off duty)

Second Alternate

David Shanks

234-9351 (0715-1545 M-F)
D 064C/ 033/0341000

(314) 741-5522 (off duty)

ATTACHMENT II

Index to Abbreviations Oil and Hazardous Substance Storage and Use Sites

LOCATION

AG TANK #: Above Ground Tank, followed by tank I.D. number.
COL #: Location of nearest numbered column inside factory bldgs.
PR TANK #: Process Tank, followed by tank identifier.
STORES: Designated holding areas for storage of materials until needed on the shop floor.
UG TANK #: Underground Tank, followed by tank identifier.

TYPE OF STORAGE (Same as SARA 312 codes at 40 CFR 370). Where mixed types are present in the same location, most prevalent is shown.

A: Above ground tank.	I: Fiber drum.
B: Below ground tank.	J: Bag.
C: Tank inside building.	N: Plastic bottles or jugs.
D: Steel drum.	O: Tote bin.
E: Plastic or non-metallic drum.	P: Tank wagon.
F: Can	R: Other.
G: Carboy	

PRESSURE AND TEMPERATURE (40 CFR 370)

1: Ambient pressure.	4. Ambient temperature.
2: Greater than ambient pressure.	5. Greater than ambient temp.
3: Less than ambient pressure.	6. Less than ambient temperature but not cryogenic.
	7. Cryogenic conditions.

EXTREME HAZ LIST? Are one or more substances or ingredients in a mixture on EPA's list of Extremely Hazardous Substances at 40 CFR 355?
T = true or yes. F = false or no.

OVER RQ? Is the total amount in storage at this location greater than a CERCLA Reportable Quantity, based on the CERCLA Hazardous Substance List at 40 CFR 302? Note that petroleum products are all positive, since a visible sheen on surface water is reportable under CERCLA.
T = true or yes. F = false or no.

OVER EXTR HAZ RQ? Is the total amount in storage at this location greater than a SARA Reportable Quantity for an Extremely Hazardous Substance (40 CFR 355)? T = true or yes. F = false or no.

LEAK DETECTION METHOD. "Inspection" denotes a systematic scheduled inspection usually recorded and conducted by a designated inspector(s). "Occupancy descriptions indicate that the facility is checked or observed by users/operating personnel who work in the area, but do not systematically record an "inspection."

HI OCCUPANCY--The area is observed by employees each working day.
MED OCCUPANCY--Observed by employees several times a week.
LO OCCUPANCY--Observed by employees about once a week.

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STORAGE	P T R E M S P	TRADE NAME	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAINMENT?	PROBABLE SPILL ROUTE
WASTE REACTIVES BLDG	D	1 4	CYANIDE WASTES	.T.	1400 GAL.	0.00	0 .T.	.T.	WEEKLY INSPECTION	YES	CONTAINMENT
** BLDG 025 UG TANK A	B	1 4	METHYL ALCOHOL	.F.	8000 GAL	6.61	52880 .T.	.F.	SAMPLED MONITORING WELLS VISUAL-HI OCCUPANCY	ON PRESSURE LINE ONLY	SOIL & GROUND WATER FOR TANK
AG TANK 25-1	A	2 7	LIQUID NITROGEN	.F.	7000 GAL	6.73	47113 .F.	.F.		NONE	VAPORIZATION
** BLDG 027 AG TANK 27-2	A	1 4	DTE-25 OIL	.F.	2000 GAL	7.24	14478 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-3	A	1 4	DTE-25 OIL	.F.	2000 GAL	7.24	14478 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-4	A	1 4	DTE-25 OIL	.F.	2000 GAL	7.24	14478 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-5	A	1 4	21-271-A (50:1 SOLUTION)	.F.	4000 GAL	8.42	33680 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-7	A	1 4	653 SLM CONCENTRATE	.F.	2000 GAL	7.89	15779 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-8	A	1 4	WASTE 653 SLM	.F.	2000 GAL	8.34	16680 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-10	A	1 4	21-271-A CONCENTRATE	.F.	400 GAL	8.42	3369 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-11	A	1 4	DTE-25 OIL	.F.	3000 GAL	7.24	21720 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-12	A	1 4	WASTE EMULSIFIED CUTTING OIL	.F.	6000 GAL	8.00	48000 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-13	A	1 4	653-SL	.F.	1000 GAL	7.76	7760 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
AG TANK 27-14	A	1 4	653-SL	.F.	1000 GAL	7.76	7760 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE FLOOR & CURB	CONTAINMENT AREA
CAR BOTTOM FURNACE TRANSFORMER ROOM #21	R	1 5	PCB TRANSFORMER	.F.	370 GAL	13.00	4810 .T.	.F.	QUARTERLY INSPEC	NONE	OUTFALL 001
TRANSFORMER ROOM #21	R	1 5	PCB TRANSFORMER	.F.	245 GAL	13.00	3200 .T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
TRANSFORMER ROOM #21	R	1 5	PCB TRANSFORMER	.F.	330 GAL	13.00	4300 .T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
TRANSFORMER ROOM #22	R	1 5	PCB TRANSFORMER	.F.	245 GAL	13.00	3200 .T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
TRANSFORMER ROOM #22	R	1 5	PCB TRANSFORMER	.F.	330 GAL	13.00	4300 .T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR & CURB	CONTAINMENT
HEAT TREAT BASEMENT	R	1 5	PCB TRANSFORMER	.F.	240 GAL	13.00	2760 .T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR	SUMP, INDUSTRIAL SEWER IF SIG.

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S P	T R A D E N A M E	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
PR TANK 162-T1	C	1 5	ALKALINE RUST REMOVER	.F.	3150 GAL	10.20	32287 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-T2	C	1 5	TURCO 4316	.F.	3150 GAL	15.32	48271 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-T5	C	1 5	SULFURIC AND OXALIC ACID	.T.	3150 GAL	11.22	35337 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-T6	C	1 5	H2PO4/HNO3/H F	.T.	3150 GAL	9.20	29118 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-T8	C	1 5	HNO3/HF/UREA	.T.	3150 GAL	8.48	26722 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-T9	C	1 4	NITRIC ACID	.T.	3150 GAL	7.78	24494 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-T12	C	1 4	AMMONIUM BIFLUORIDE	.F.	200 GAL	8.49	1699 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-2	C	1 5	CR110/CR130	.F.	315 GAL	10.74	3379 .F.	.F.	pH ALARM IN SEWER	BERM. INDUST. SEWER	INDUST. SEWER
PR TANK 158B-3	C	1 5	CR110/CR130	.F.	1025 GAL	10.74	11024 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-4	C	1 5	CR110/CR130	.F.	1400 GAL	10.74	15043 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-7	C	1 4	IRIDITE 8P AND NITRIC ACID	.T.	420 GAL	4.12	1725 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-9	C	1 4	HYDROCHLORIC ACID	.F.	480 GAL	9.35	4486 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-10	C	1 5	ISOPREP 58 LT	.F.	315 GAL	8.41	2649 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-12	C	1 5	ISOPREP 58 LT AND NAOH	.F.	315 GAL	8.42	2653 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-14	C	1 4	ANOKLEEN	.F.	185 GAL	9.97	1844 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-15	C	1 4	AMMONIUM NITRATE	.F.	185 GAL	9.59	1774 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-17	C	1 4	NACN/CDO/NA2 CO3	.T.	920 GAL	8.77	8070 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-21A	C	1 4	NACN/NAOH	.T.	730 GAL	9.28	6777 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-22	C	1 4	CHROMIC ACID	.F.	1885 GAL	8.91	16790 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-24	C	1 5	NICKEL SULFAMATE/BO RIC ACID	.F.	335 GAL	14.80	4960 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-27A	C	1 4	NACN/CDO/NAC O3	.T.	780 GAL	9.57	7465 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-28	C	1 4	HYDROCHLORIC ACID	.F.	112 GAL	8.48	9497 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-30	C	1 5	ISOPREP 58 LT	.F.	945 GAL	8.72	8240 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S P	T R A D E N A M E	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
PR TANK 158B-31	C	1	SPECIAL PROCESS	.F.	100 GAL	0.00	0 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-32	C	1 4	SPECIAL PROCESS	.F.	100 GAL	0.00	0 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-33	C	1 4	HYDROFLUORIC & SULFURIC ACID	.T.	100 GAL	10.36	1036 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-34	C	1 5	NA2CR2O7/HNO 3	.T.	100 GAL	6.93	693 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-35	C	1 5	ETHYLENE DIAMINE/HNO3 /H2SO4	.T.	100 GAL	8.58	858 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-37	C	1	SPECIAL PROCESS	.F.	100 GAL	0.00	0 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-38	C	1 4	NA2CRO2/H2SO 4	.F.	100 GAL	1.49	149 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-40	C	1 4	NITRIC ACID	.T.	1973 GAL	8.32	16418 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-43	C	1 4	STAN.SUL./12 8BR/128ADD/1 28MAIN	.F.	675 GAL	0.00	0 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-44	C	1 4	SULFURIC ACID	.T.	560 GAL	8.66	4851 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-46	C	1 5	ALSTAN 71/ALSTAN 72	.T.	675 GAL	9.98	6734 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-47	C	1 5	ALSTAN 88C/ALSTAN 88D	.F.	675 GAL	3.49	2358 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-49A	C	1 4	ALSTAN 30/NITRIC ACID	.T.	280 GAL	9.17	2568 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-49B	C	1 4	NITRIC ACID	.T.	280 GAL	8.23	2304 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 158B-50B	C	1 5	ALSTAN 20	.F.	280 GAL	8.85	2478 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-1	C	1 5	4215 LTNC/4215 LTNC ADDITIVE	.F.	3465 GAL	8.78	30423 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-3	C	1 4	NITRIC AND HYDROFLUORIC ACID	.T.	3465 GAL	8.27	28630 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-5	C	1 5	CHROMIC ACID	.F.	3465 GAL	8.78	30435 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-7	C	1 4	AMCHEM 7/NITRIC ACID	.F.	3465 GAL	8.50	29468 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S	T R A D E N A M E	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
PR TANK 162-9	C	1 4	IRIDITE 14-2	.F.	3465 GAL	8.43	29195 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-11	C	1 5	ALODINE 1500	.F.	3465 GAL	9.00	31229 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-12	C	1 5	CHROMIC ACID	.F.	3465 GAL	8.35	28915 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-14	C	1 4	IRIDITE 14-2	.F.	210 GAL	8.43	1769 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-18	C	1 4	CRO3/FE(NO2) 3/KF	.F.	225 GAL	9.77	2198 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-20	C	1 5	FERLON	.F.	225 GAL	8.91	2005 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-J	C	1 6	SULFURIC ACID	.T.	3044 GAL	9.67	29436 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-K	C	1 4	SULFURIC ACID	.T.	3044 GAL	8.94	27216 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-M	C	1 5	POTASSIUM DICHROMATE	.F.	1900 GAL	8.92	16956 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK BA-2	C	1 5	SANDOZ BLW DYE	.F.	240 GAL	8.43	2023 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK BA-3	C	1 5	NICKEL ACETATE/ACET IC ACID	.F.	323 GAL	8.48	2740 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-AM	C	1 4	ALODINE 1200/ARP NO. 2	.F.	210 GAL	8.47	1778 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-TM	C	1 4	ALODINE 1200/CABOSIL /ARP NO. 2	.F.	220 GAL	0.00	0 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-S2	C	1 4	CLEPO ULTRASTRIP 256	.F.	1155 GAL	10.58	12530 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 162-S5	C	1 5	CEE BEE A805	.T.	660 GAL	12.50	8250 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
DEPT. 162 DEGREASER HAZ WASTE DRUM BLDG	R D	1 5 1 4	TRICHLOROETH YLENE WASTE OIL, SOLVENT, CORROSIVES	.F. .T.	400 GAL 16800 GAL	12.81 0.00	4873 .T. 0 .T.	.F. .T.	VISUAL-HI OCCUPANCY DAILY INSPECTION	BERM INDUST. SEWER YES, TWO SEPARATE COMPARTMENTS	INDUST. SEWER CONTAINMENT
STORES COOLER	D	1 4	CYCLOHEXANON E	.F.	110	7.90	870 .F.	.F.	VISUAL DAILY INSPECTION	COOLER FLOOR	COOLER FLOOR
** BLDG 028 UG TANK E	B	1 4	JET FUEL	.F.	5000 GAL	6.76	33800 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK	CONTAINMENT
UG TANK F	B	1 4	JET FUEL	.F.	5000 GAL	6.76	33800 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK	CONTAINMENT

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P T R E E M S P	TRADENAME	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
UG TANK D	B	1 4	WASTE JET FUEL	.F.	5000 GAL	6.76	33800 .T.	.F.	INTERSTIT. MONITOR/DAILY STICK	DOUBLE WALL TANK	CONTAINMENT
** BLDG 029 UG TANK A	B	1 4	HYDRAULIC OIL	.F.	4000 GAL	7.34	29360 .T.	.F.	BY INVENTORY LOSS ONLY	NONE	SOIL & GROUND WATER
AG TANK 29-3	A	1 4	TRICHLOROETH YLENE	.F.	1800 GAL	12.18	21918 .T.	.F.	VISUAL-MED OCCUPANCY	CONCRETE PIT & CURB	CONTAINMENT
AG TANK 29-1	A	2 4	ARGON	.F.	2500 CU FT	86.98	217450 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
DEPT. 161H DEGREASER	R	1 5	TRICHLOROETH YLENE	.F.	175 GAL	12.81	2132 .T.	.F.	VISUAL-HI OCCUPANCY	CONCRETE PIT	INDUST. SEWER
** BLDG 029A AG TANK 29A-1	A	2 7	LIQUID NITROGEN	.F.	5000 GAL	6.73	33650 .F.	.F.	VISUAL-LOW OCCUPANCY	NONE	VAPORIZATION
AG TANK 29A-2	A	2 7	LIQUID NITROGEN	.F.	7000 GAL	6.73	47113 .F.	.F.	VISUAL-LOW OCCUPANCY	NONE	VAPORIZATION
** BLDG 039 STORES	R	1 4	PASAJELL (NITRIC/CHRO MIC ACID)	.T.	1000 GAL.	0.00	0 .T.	.T.	VISUAL-DAILY INSPECTION	BERMED AREA	CONTAINMENT
STORES	J	1 4	ALODINE 1500 (CHROMIC ACID)	.F.	500 LBS.	0.00	500 .T.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	J	1 4	SULFONIC ACID	.F.	200 LBS.	0.00	200 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	J	1 4	ISOPREP 58 LT (dry NaOH)	.F.	500 LBS.	0.00	500 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	J	1 4	AMMONIUM NITRATE	.F.	700 LBS.	0.00	700 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	J	1 4	IRIDITE 14-2 (chromic acid)	.F.	200 LB.	0.00	200 .T.	.F.	VISUAL DAILY INSPECTIONS	NONE	DOPE HOUSE FLOOR
STORES	J	1 4	ALKALINE RUST REMOVER (NaOH)	.F.	11000 LBS	0.00	11000 .T.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	D	1 4	CLEPO 256 (Dichloromet hane)	.F.	500 GAL.	10.50	5254 .T.	.F.	VISUAL DAILY INSPECTION	BERM AND SUMP	BLIND SUMP
STORES	J	1 4	SODIUM PERSULFATE	.F.	80 LBS	0.00	80 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	E	1 4	DEOXIDIZER (POTASS. DICHROMATE)	.F.	6 DRUMS	0.00	0 .T.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S	T E M P	TRADENAME	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
STORES	E	1	4	CR-110 (CHROMIC ACID)	.F.	1000 LB	0.00	1000 .T.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	E	1	4	HEATTREAT SALT (Na nitra/ites)	.F.	28000 LBS	0.00	28000 .T.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
** BLDG 039A PCB STORAGE	D	1	4	PCB'S FOR DISPOSAL	.F.	2280 GAL.	13.00	29640 .T.	.F.	WEEKLY INSPECTION	YES	CONTAINMENT
** BLDG 040 AG TANK 40-1	A	2	7	CARBON DIOXIDE	.F.	6000 GAL	13.01	78062 .F.	.F.	VISUAL-III OCCUPANCY	NONE	VAPORIZATION
WASTE DRUM SHELTER	D	1	4	WASTE OIL AND SOLVENTS	.F.	1400 GAL.	0.00	0 .T.	.F.	VISUAL-MED OCCUPANCY	YES	CONTAINMENT
** BLDG 041 UG TANK H	B	1	4	JET FUEL	.F.	30000 GAL	6.84	202800 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK & LINES	CONTAINMENT
UG TANK L	B	1	4	LEADED GASOLINE	.F.	8000 GAL	6.11	48846 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK AND LINES	CONTAINMENT
UG TANK I	B	1	4	JET FUEL	.F.	30000 GAL	6.76	202800 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK & LINES	CONTAINMENT
UG TANK J	B	1	4	JET FUEL	.F.	30000 GAL	6.76	202800 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK & LINES	CONTAINMENT
UG TANK K	B	1	4	JET FUEL	.F.	30000 GAL	6.76	202800 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK & LINES	CONTAINMENT
UG TANK M	B	1	4	JET FUEL	.F.	8000 GAL	6.84	54720 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK & LINES	CONTAINMENT
UG TANK N	B	1	4	JET FUEL	.F.	9000 GAL	6.84	61560 .T.	.F.	INTERSTITIAL MONITOR	DOUBLE WALL TANK & LINES	CONTAINMENT
STORES	F	1	4	ISOPROPYL ALCOHOL	.F.	200 GAL	6.55	1310 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	D	1	4	METHYL ETHYL KETONE	.F.	1500 GAL.	6.70	10050 .T.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	F	1	4	PAINTS, THINNERS, CATALYSTS	.F.		0.00	0 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	D	1	4	FREON TF (CFC-113)	.F.	1200 GAL.	13.11	15730 .F.	.F.	DAILY VISUAL INSPECTION	NONE	DOPE HOUSE FLOOR
** BLDG 042 ROOM 110	R	1	5	PCB TRANSFORMER	.F.	415 GAL	13.00	5355 .T.	.F.	QUARTERLY INSPIC	CONCRETE FLOOR/WOOD CURB	CURBED AREA

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S	T E M P	TRADENAME	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
ROOM 110	R	1	5	PCB TRANSFORMER	.F.	280 GAL	13.00	3640 .T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR/WOOD CURB	CURBED AREA
** BLDG 043 SS OF BLDG	R	1	5	PCB TRANSFORMER	.F.	680 GAL	13.00	9170 .T.	.F.	QUARTERLY INSPEC/HI OCCUPANCY	CONCRETE PAD ONLY	OUTFALL 2/4 IF MAJOR RELEASE
** BLDG 044 SUB-STATION 44	R	1	5	PCB CONTAM. TRANSFORMER	.F.	114 GAL	7.20	821 .T.	.F.	QUARTERLY INSPEC	NONE	SOIL
SUB-STATION 44	R	1	5	PCB CONTAM. TRANSFORMER	.F.	114 GAL	7.20	821 .T.	.F.	QUARTERLY INSPEC	NONE	SOIL
** BLDG 045 AG TANK 45-1	A	2	7	LIQUID NITROGEN	.F.	1000 GAL	6.73	6730 .F.	.F.	VISUAL-HI OCCUPANCY	NONE	VAPORIZATION
** BLDG 045A AG TANK 45A-1	A	2	7	LIQUID OXYGEN	.F.	1000 GAL	9.51	9510 .F.	.F.	VISUAL-LOW OCCUPANCY	NONE	VAPORIZATION
** BLDG 045K UG TANK A	B	1	4	WASTE JET FUEL	.F.	4380 GAL	6.76	29609 .T.	.F.	MONITORED WELL & DAILY STICK	NONE	SOIL & GROUND WATER
** BLDG 048 PAINT SHOP SHELTER	D	1	4	METHYL ETHYL KETONE & PAINTS	.F.	500 GAL.	6.72	6720 .T.	.F.	VISUAL-HI OCCUPANCY	YES	CURBED AREA
** BLDG 049A AG TANK 49A-1	A	2	4	PROPANE	.F.	1000 GAL	4.92	4920 .T.	.F.	WEEKLY INSPECTION	NONE	VAPORIZATION
AG TANK 49A-2	A	2	4	PROPANE	.F.	1000 GAL	4.92	4920 .T.	.F.	WEEKLY INSPECTION	NONE	VAPORIZATION
** BLDG 051 AG TANK 51-3	A	1	4	SODIUM HYDROXIDE WASTE (20%)	.F.	10000 GAL	10.17	101700 .T.	.F.	DAILY VISUAL INSPEC	BERM-INDUST. SEWER	INDUST. SEWER
AG TANK 51-4	A	1	4	SODIUM HYDROXIDE WASTE (20%)	.F.	10000 GAL	10.17	101700 .T.	.F.	DAILY VISUAL INSPEC	BERM-INDUST. SEWER	INDUST. SEWER
AG TANK 51-5	A	1	4	SODIUM HYDROXIDE (20%)	.F.	8000 GAL	12.76	102082 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S	T E M P	TRADENAME	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM LBS.	OVER RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
PR TANK 51-7	C	1	4	ADCOAT 872	.F.	6000 GAL	12.40	7460	.T.	.T.	VISUAL-LOW OCCUPANCY	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 51-8	C	1	4	PERCHLOROETH YLENE	.F.	800 GAL	13.50	10802	.T.	.T.	VISUAL-LOW OCCUPANCY	BERM-INDUST. SEWER	INDUST. SEWER
LIQUA-BIN STAGING	O	1	4	PERCHLOROETH YLENE & PERC MASK	.F.	7700 GAL.	13.50	103950	.T.	.F.	DAILY INSPECTION	LARGE PAVED AREA ONLY	ASPHALT, THEN OUTFALL
WASTE DRUM SHELTER	D	1	4	WASTE SOLVENTS, OILS	.F.	2000 GAL	0.00	0	.T.	.F.	DAILY INSPECTION	YES	CONTAINMENT
** BLDG 052 AG TANK 52-1(1)	A	1	4	NITRIC HYDROFLUORIC WASTE	.T.	850 GAL	9.43	8016	.T.	.F.	DAILY VISUAL INSPEC	BERM-INDUST. SEWER	INDUST. SEWER
AG TANK 52-1(2)	A	1	4	NITRIC HYDROFLUORIC WASTE	.T.	850 GAL	9.43	8016	.T.	.F.	DAILY VISUAL INSPEC	BERM-INDUST. SEWER	INDUST. SEWER
AG TANK 52-1(3)	A	1	4	NITRIC HYDROFLUORIC WASTE	.T.	850 GAL	9.43	8016	.T.	.F.	DAILY VISUAL INSPEC	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 52-1	C	1	4	SODIUM HYDROXIDE, TE A, TFE#2	.F.	3300 GAL	4.01	13219	.T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 52-3	C	1	4	NITRIC AND HYDROFLUORIC ACID	.T.	3300 GAL	8.25	27225	.T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 52-S3	C	1	5	NITRIC AND HYDROFLUORIC ACID	.T.	540 GAL	8.29	4477	.T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 52-S5	C	1	5	NITRIC AND HYDROFLUORIC ACID	.T.	540 GAL	8.29	4477	.T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 52-4	C	1	4	SODIUM HYDROXIDE, TE A, TFE#2	.F.	3300 GAL.	4.01	13219	.T.	.F.	pH ALARM IN SEWER	BERM-INDUSTRI AL SEWER	INDUST. SEWER
PR TANK 52-6	C	1	4	SODIUM HYDROXIDE, TEA, TFE#2	.F.	3300 GAL.	4.01	13219	.T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
** BLDG 054 AG TANK 54-1	A	1	4	NITRIC ACID (69%)	.T.	OUT OF SERV.	11.89	0	.T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
** BLDG 064 AG TANK 64-1	A	2	7	ANHYDROUS AMMONIA	.T.	500 GAL	5.16	2580	.T.	.F.	VISUAL-III OCCUPANCY	NONE	VAPORIZATION

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P T R E F M S P	TRADENAME	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
** BLDG 081 PAINT SHOP STORAGE	D	1 4	FLAMMABLE PAINTS/SOLVE NTS	.F.	2280 GAL.	6.70	15276 .T.	.F.	VISUAL-MED OCCUPANCY	YES	CONTAINMENT
** BLDG 090 WASTE DRUM SHELTER	D	1 4	WASTE OILS AND SOLVENTS	.F.	600 GAL.	0.00	0 .T.	.F.	VISUAL-MED OCCUPANCY	YES	CONTAINMENT
** BLDG 101 AG TANK 101-1 A	A	2 7	LIQUID ARGON	.F.	2000 GAL	11.63	23260 .F.	.F.	VISUAL-HI OCCUPANCY	NONE	VAPORIZATION
AG TANK 101-2 A	A	2 7	LIQUID NITROGEN	.F.	450 CU FT	50.46	22707 .F.	.F.	VISUAL-HI OCCUPANCY	NONE	VAPORIZATION
AG TANK 101-3 A	A	2 7	LIQUID NITROGEN	.F.	7000 GAL	6.73	47113 .F.	.F.	VISUAL-HI OCCUPANCY	NONE	VAPORIZATION
AG TANK 101-4 A	A	1 4	TF SOLVENT	.F.	2600 GAL	13.04	34044 .F.	.F.	VISUAL-MED OCCUPANCY	CONCRETE-OPEN DRAIN	SOIL
AG TANK 101-5 A	A	2 7	LIQUID NITROGEN	.F.	2000 GAL	6.73	13460 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 101-7 A	A	2 7	ANHYDROUS AMMONIA	.T.	500 GAL	5.16	2580 .T.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 101-8 A	A	1 4	NITRIC ACID (69%)	.T.	5000 GAL	11.89	59450 .T.	.F.	DAILY VISUAL INSPECTION	CONCRETE CONTAINMENT	INDUST. SEWER
PR TANK 157-1 C	C	1 5	4215 LTNC/4215 LTNC ADDITIVE	.F.	2690 GAL	8.78	23623 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 157-4.5	C	1 4	NH4F2 AND NITRIC ACID	.T.	2690 GAL	8.27	22246 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 157-5 C	C	1 4	NITRIC AND HYDROFLUORIC ACID	.T.	2690 GAL	8.27	22246 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 157-6 C	C	1 4	NITRIC AND HYDROFLUORIC ACID	.T.	2690 GAL	8.54	22988 .T.	.T.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 157-7 C	C	1 4	AMCHEM 7 AND NITRIC ACID	.T.	2690 GAL	8.78	23623 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 157-A1	C	1 5	4215 LTNC/4215 LTNC ADDITIVE	.F.	2690 GAL	9.34	25125 .T.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 157-A C	C	1 5	SODIUM HYDROXIDE	.F.	2690 GAL	8.34	22434 .F.	.F.	UNNECESSARY, BIODEGR. CLEANER	BERM-INDUST. SEWER	INDUST. SEWER
PR TANK 157-F C	C	1 5	AQUEOUS DEGREASER	.F.	2690 GAL						

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S	T R A D E N A M E	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
DR TANK 157-H C		1 4	IRIDITE 14-2	.F.	2690 GAL	8.42	22663 .F.	.F.	pH ALARM IN SEWER	BERM-INDUST. SEWER	INDUST. SEWER
DEPT. 155A DEGREASER	R	1 5	TRICHLOROETH YLENE	.F.	98 GAL	12.81	1194 .T.	.F.	VISUAL-HI OCCUPANCY	CONCRETE FLOOR	CONTAINMENT IN BLDG
DEPT. 157C DEGREASER	R	1 5	TRICHLOROETH YLENE	.F.	140 GAL	12.81	1706 .T.	.F.	VISUAL-HI OCCUPANCY	CONCRETE FLOOR & CURB	INDUSTRIAL SEWER
** BLDG 101A AG TANK 101A-1	A	2 7	LIQUID NITROGEN	.F.	15000 GAL	6.73	100950 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 101A-2	A	2 7	LIQUID NITROGEN	.F.	15000 GAL	6.73	100950 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
** BLDG 102 IKG TANK D	B	1 4	FUEL OIL	.F.	20000 GAL	7.33	146600 .T.	.F.	FLOW METER ONLY	NONE	SOIL & GROUND WATER VAPORIZATION
AG TANK 102-1 A		2 7	LIQUID NITROGEN	.F.	2500 GAL	6.73	16825 .F.	.F.	VISUAL-HI OCCUPANCY	NONE	
AG TANK 102-5 A		1 4	SODIUM CHLORITE SOLUTION 25%	.F.	800 GAL	10.00	8000 .F.	.F.	CHECK APPRX BIWEEKLY	NONE	
AG TANK 102-6 A		2 7	LIQUID NITROGEN	.F.	15000 GAL	6.73	100950 .F.	.F.	VISUAL-HI OCCUPANCY	NONE	VAPORIZATION
AG TANK 102-2(1)	A	2 4	HELIUM	.F.	60 CU FT	7.80	468 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 102-2(2)	A	2 4	HELIUM	.F.	60 CU FT	7.80	468 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 102-2(3)	A	2 4	HELIUM	.F.	60 CU FT	7.80	468 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 102-2(4)	A	2 4	HELIUM	.F.	60 CU FT	7.80	468 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
COL 11A	R	1 5	PCB TRANSFORMER	.F.	750 GAL	13.00	9800 .T.	.F.	QUARTERLY INSPC	CONCRETE FLOOR & CURB	CONTAINMENT
SHED AT NE CORNER	L	2 4	CHLORINE GAS	.T.	1200 LBS	0.00	1200 .T.	.T.	ODOR-LO OCCUPANCY	SHED	VAPORIZATION
** BLDG 102A AG TANK 102A-1	A	2 7	LIQUID NITROGEN	.F.	7000 GAL	6.73	47113 .F.	.F.	VISUAL-HI OCCUPANCY	NONE	VAPORIZATION
** BLDG 103 AG TANK 103-3 A	A	2 7	LIQUID NITROGEN	.F.	10000 GAL	6.73	67300 .F.	.F.	VISUAL-HI OCCUPANCY	NONE	VAPORIZATION
AG TANK 103-4(1)	A	2 4	HELIUM	.F.	11 CU FT	7.80	86 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 103-4(2)	A	2 4	HELIUM	.F.	11 CU FT	7.80	86 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S P	T R A D E N A M E	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
AG TANK 103-4(3)	A	2 4	HELIUM	.F.	11 CU FT	7.80	86 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
COMPRESSOR ROOM	R	1 5	PCB	.F.	676 GAL	13.00	8800 .T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR	
COMPRESSOR ROOM	R	1 5	PCB TRANSFORMER	.F.	556 GAL	13.00	7220 .T.	.F.	QUARTERLY INSPEC	CONCRETE FLOOR	
** BLDG 105 UG TANK A	B	1 4	SODIUM CHLORITE SOLUTION 25%	.F.	800 GAL	10.00	8000 .T.	.F.	NONE	NONE	SOIL & GROUND WATER
SHED NEAR SPRAY POND	L	2 4	CHLORINE GAS	.T.	1200 LBS	0.00	1200 .T.	.T.	ODOR-LO OCCUPANCY	SHED	VAPORIZATION
** BLDG 110 UG TANK A	B	1 4	FUEL OIL	.F.	15000 GAL	7.33	109950 .T.	.F.	NONE	NONE	SOIL & GROUND WATER
AG TANK 110-1	A	2 7	LIQUID NITROGEN	.F.	6000 GAL	6.73	40380 .F.	.F.	VISUAL-LOW OCCUPANCY	NONE	VAPORIZATION
** BLDG 111 UG TANK A	B	1 4	FUEL OIL	.F.	550 GAL	7.33	4031 .T.	.F.	FLOW METER ONLY	NONE	SOIL & GROUND WATER
UG TANK B	B	1 4	FUEL OIL	.F.	12000 GAL	7.33	87960 .T.	.F.	VISUAL	CONCRETE VAULT	UNDERGROUND VAULT
AG TANK 111-1	A	2 7	LIQUID NITROGEN	.F.	3000 GAL	6.73	20190 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 111-2	A	2 7	LIQUID OXYGEN	.F.	1500 GAL	9.51	14265 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 111-3	A	2 7	LIQUID NITROGEN	.F.	9000 GAL	6.73	60570 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
AG TANK 111-4	A	2 7	LIQUID HYDROGEN	.F.	1500 GAL	0.59	888 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
** BLDG 120 AG TANK 120-1	A	1 4	FUEL OIL	.F.	100000 GAL	7.33	733000 .T.	.F.	WEEKLY VISUAL INSPEC	EARTHEN DIKE	SOIL
AG TANK 120-2	A	1 4	FUEL OIL	.F.	50000 GAL	7.33	366500 .T.	.F.	WEEKLY VISUAL INSPEC	EARTHEN DIKE	SOIL
STORES	F	1 4	1,1,1-TRICHL OROETHANE	.F.	400 GAL.	11.25	4500 .T.	.F.	VISUAL-DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	D	1 4	CYCLOHEXANON E	.F.	400 GAL.	7.90	3160 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	D	1 4	METHYL ETHYL KETONE	.F.	2000 GAL	6.70	13400 .T.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	F	1 4	PAINTS, THINNER, CATALYSTS	.F.		0.00	0 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

LOCATION	TYPE OF STOR- AGE	P R E M S P	T R A D E N A M E	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE
STORES .	F	1 4	ISOPROPYL ALCOHOL	.F.	100 GAL.	6.55	655 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	D	1 4	LF-22 (AROMATIC SOLVENTS)	.F.	170 GAL.	7.40	1258 .T.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
STORES	F	1 4	ACETONE	.F.	100 GAL.	6.65	665 .F.	.F.	VISUAL DAILY INSPECTION	NONE	DOPE HOUSE FLOOR
** BLDG 220 DEPT. 184 DEGREASER	R	1 5	TRICHLOROETH YLENE	.F.	210 GAL	12.81	2559 .T.	.F.	VISUAL-HI OCCUPANCY	CONCRETE FLOOR & CURB	INDUST. SEWER
** BLDG 245 AG TANK 245-1	A	2 8	ANHYDROUS AMMONIA	.T.	500 GAL	5.16	2580 .T.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
WASTE DRUM SHELTER	D	1 4	WASTE OILS & SOLVENTS	.F.	2000 GAL.	0.00	0 .T.	.F.	VISUAL-MED OCCUPANCY	YES	CONTAINMENT
** BLDG 275 AG TANK 275-1	A	2 7	ANHYDROUS AMMONIA	.T.	1000 GAL	5.16	5160 .T.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
** BLDG 276 AG TANK 276-1	A	2 7	LIQUID NITROGEN	.F.	7000 GAL	6.73	47110 .F.	.F.	VISUAL-MED OCCUPANCY	NONE	VAPORIZATION
PR TANK 113-2	C	1 5	4215 LTNC/4215	.F.	675 GAL	8.78	5927 .F.	.F.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
PR TANK 113-5	C	1 4	ADDITIVE ALKALINE	.F.	675 GAL	0.00	7658 .F.	.F.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
PR TANK 113-6	C	1 4	RUST REMOVER NITRIC AND	.T.	675 GAL	8.27	5581 .T.	.T.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
PR TANK 113-8	C	1 4	HYDROFLUORIC ACID	.T.	675 GAL	8.50	5738 .F.	.F.	VISUAL-HI OCCUPANCY	BERM HOLDING TANK	HOLDING TANK
PR TANK 113-9	C	1 4	AMCHEM 7/NITRIC ACID	.T.	675 GAL	8.40	5678 .F.	.F.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
PR TANK 113-10	C	1 4	ALODINE 1200	.F.	675 GAL	0.00	0 .F.	.F.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
PR TANK 113-11	C	1 5	SPECIAL PROCESS	.F.	675 GAL	8.71	5880 .T.	.T.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
PR TANK 113-13	C	1 4	HNO3/HF/UREA	.T.	675 GAL	7.81	5271 .T.	.T.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
PR TANK 113-14	C	1 5	NITRIC ACID	.T.	675 GAL	9.47	6395 .T.	.T.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
			HNO3/H3PO4/H F/DAPCO 6001	.T.	675 GAL						

SPILL PREVENTION AND RESPONSE PLAN
Oil and Hazardous Substance Storage and Use Sites

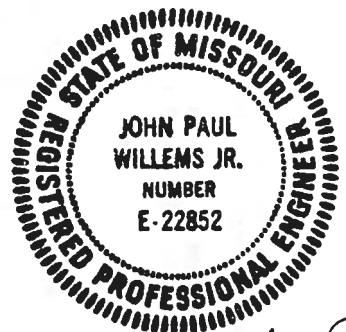
LOCATION	TYPE OF STOR- AGE	P R E M S	T R A D E N A M E	EXTREME HAZ LIST?	MAXIMUM AMOUNT	CONVERSION TO LBS.	MAXIMUM OVER LBS. RQ?	OVER EXTR HAZ RQ?	LEAK DETECTION METHOD	SECONDARY CONTAIN- MENT?	PROBABLE SPILL ROUTE	
PR TANK 113-16	C	1	4	HYDROCHLORIC ACID	.F.	675 GAL	9.30	6301 .F.	.F.	VISUAL-HI OCCUPANCY	BERM-HOLDING TANK	HOLDING TANK
DEPT. 113	R	1	5	TRICHLOROETHYLENE	.F.	50 GAL	12.18	609 .F.	.F.	VISUAL-HI OCCUPANCY		
DEGREASER WASTE DRUM SHELTER	D	1	4	WASTE OIL, SOLVENT, CORROSIVES	.T.	2000 GAL.	0.00	0 .T.	.T.	VISUAL-MED OCCUPANCY	DIVIDED CONTAINMENT	CONTAINMENT
** BLDG RAMP UG TANK A	B	1	4	WASTE JP-4	.F.	2130 GAL	6.76	14399 .T.	.F.	GRNDWATER MONITOR/DAILY STICK	NONE	SOIL & GROUND WATER
UG TANK B	B	1	4	WASTE JP-4	.F.	2000 GAL	6.76	13520 .T.	.F.	GRNDWATER MONITOR/DAILY STICK	NONE	SOIL & GROUND WATER
UG TANK C	B	1	4	WASTE JET FUEL	.F.	2000 GAL	6.76	13520 .T.	.F.	GRNDWATER MONITOR/DAILY STICK	NONE	SOIL & GROUND WATER
MOBILE TANKER	P	1	4	WASTE JET FUEL	.F.	2000 GAL	6.76	13520 .T.	.F.	DAILY VISUAL INSPECTION	INFLATABLE BERM	CONTAINMENT

Approved by: *Robert H. Kaatman*
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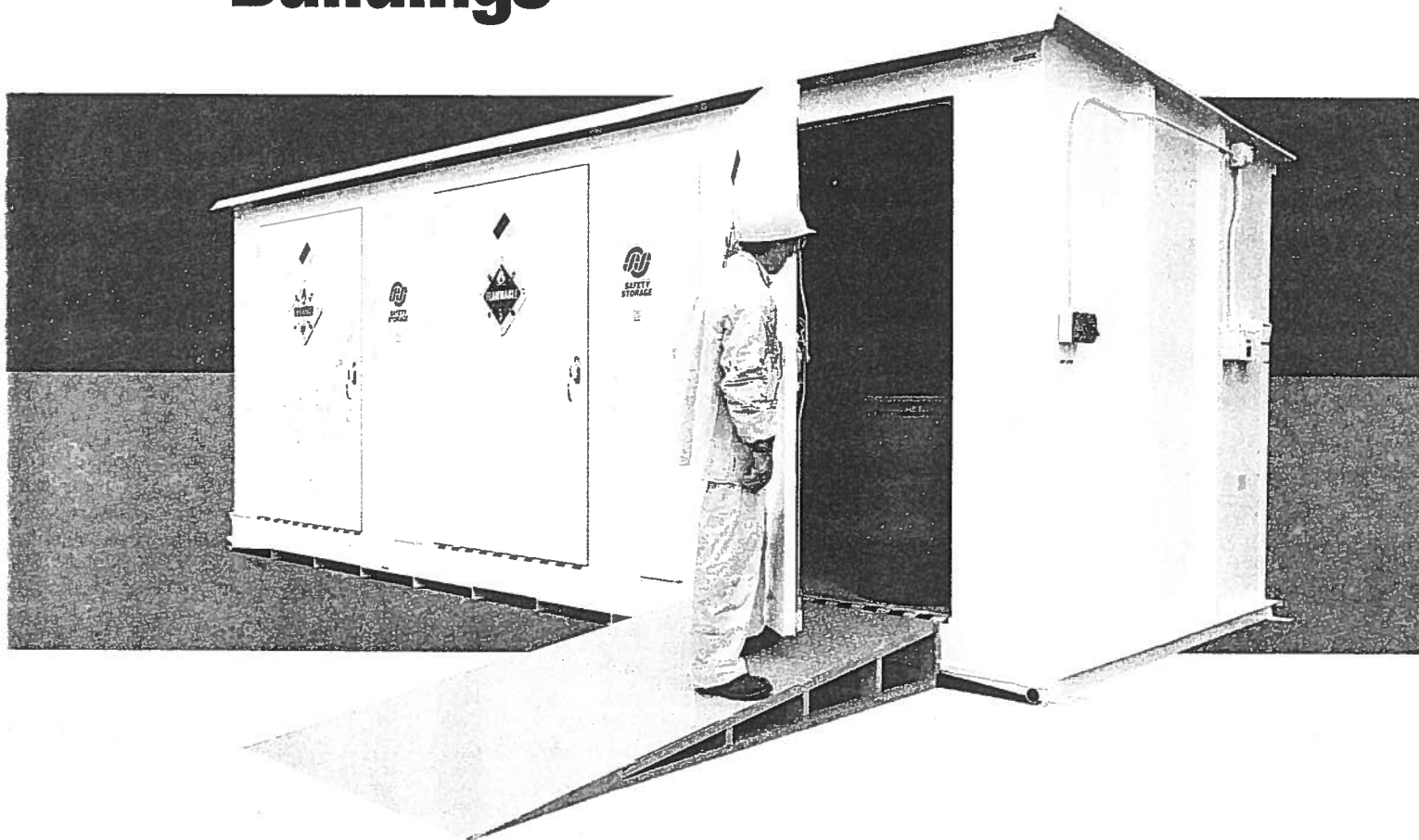


John P. Willems Jr
E-22852 3/1/91

**Factory
Mutual
System**

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Safety StorageTM Buildings



**for Chemicals
and Hazardous Materials**

*Achieve regulatory compliance
for storage of hazardous materials*



SAFETY STORAGE

Spill Containment

Fire Protection

Security

Safety Storage prefabricated, weatherproof buildings offer a low cost solution to remove chemical hazards from your facility, provide secondary containment for groundwater protection, minimize liability, meet fire safety needs, and safeguard personnel, while complying with federal, state, and local regulations.

- Relocatable turnkey prefabricated buildings
- More economical than block or concrete structures
- Avoid costly delays characteristic of on-site construction
- Provides spill containment, fire protection, personnel safety, and security
- Can be custom designed to fit your requirements
- Wide variety of options to meet your needs

STANDARD FEATURES

- Accommodates up to forty 55-gallon drums or 22 tons of bulk materials
- Available in 22', 15', and 7' sizes
- Built of rugged 10- and 12-gauge steel
- Chemical resistant coated surfaces
- Provides up to 750-gallon spill containment sump
- Convenient visual inspection of sump area
- Special security features
- Pallet-wide doors for easy loading
- Forklift pockets
- Fire sprinkler assembly
- Fiberglass floor gratings
- Air intake vent(s)

- Locate on flat surface, no foundations required
- Static grounding connection and grounding rod and lugs
- Building hold-downs
- Hazard labeling

OPTIONAL FEATURES

- Emergency eye/face wash units
- Dry chemical fire suppression systems
- UL-listed, explosion-proof lighting and electrical components
- Built-in heating and cooling systems
- Floor level mechanical air ventilation systems
- Corrosion resistant sump liner(s) for added chemical resistivity
- Spill and leak detection
- Liquid level detectors with alarm
- Emergency audible alarms
- Interior shelving and compartment separation walls
- Explosion relief vent panels
- Exterior lighting
- Fabricated steel ramp

COMPLETE BUILDING SYSTEMS FOR SPILL CONTAINMENT, FIRE PROTECTION, AND SECURITY

Safety Storage buildings are complete turnkey structures which require a minimum of site preparation and can be used immediately upon delivery. A wide range of features are included in all Safety Storage buildings as standard equipment.

▼ *Model 7 with ventilation, exterior light, explosion relief vent panel and dry chemical fire suppression system*

Building Sizes to Meet all Requirements

Safety Storage buildings are available in 22', 15', and 7' sizes. The largest of the series is the Model 22, which has outside dimensions of 22' 8" x 9' x 8' 7½" and is equipped with three doors for easy access.

Storage Capacity

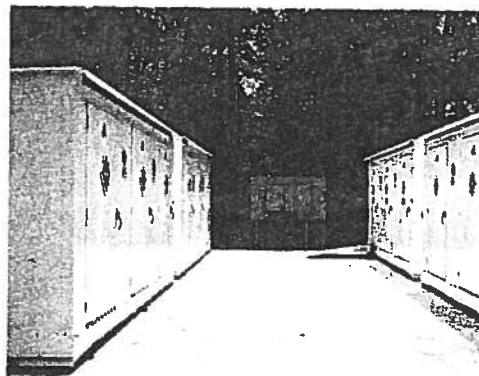
Safety Storage buildings accommodate up to forty 55-gallon drums or 22 tons of bulk materials. Access doors are pallet-width to permit loading and unloading by forklift.

Durable Construction

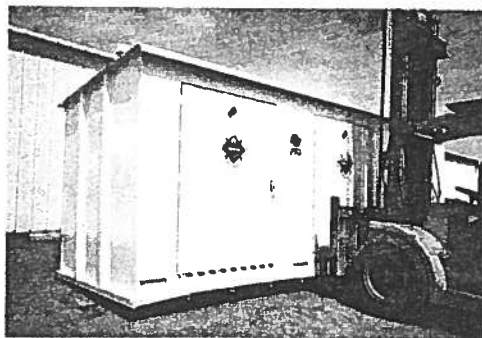
All buildings are constructed of welded 10- and 12-gauge ASTM 569 steel with supporting structural steel sections for extended service life. Standard floors are corrosion resistant fiberglass grating with safety grit top surface. All interior surfaces covered with two coats of chemical-resistant paint. The exterior surfaces are finished with reflective white Polyurethane.

Spill Containment

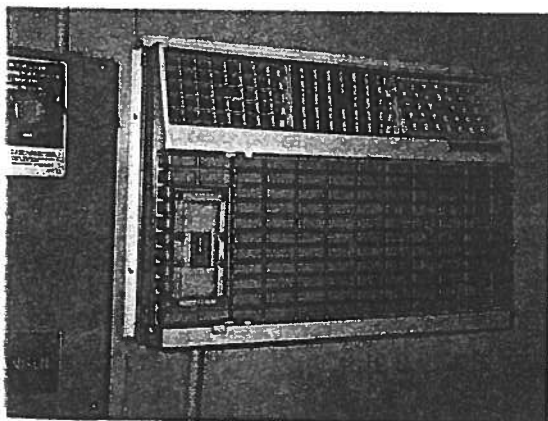
To prevent escape of hazardous liquids, this fully-engineered unit



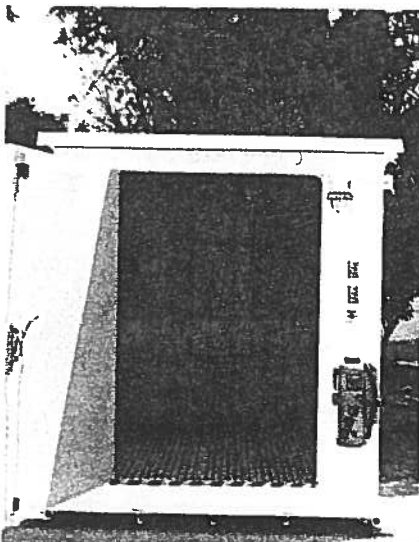
▲ Multiple building units consolidate hazardous materials storage



▲ Forklift moving a Safety Storage building to a new location



▲ Optional temperature-control system for temperature-sensitive chemicals



includes a spill-containment reservoir. It is constructed of continuously welded 10-gauge steel which is coated to resist chemical attack. The spill-containment capacity is 25% greater than required by existing regulations and is provided with an under-sump inspection area. A sump overflow pipe fitting is available to comply with current building and fire codes in various areas.

Fire Protection

Each model contains a water sprinkler assembly with a 2½" NHT fitting located outside the building for sprinkler assembly hookup. An optional dry chemical fire suppression system is also available.

Special Security Features

To prevent unauthorized entry, a heavy-duty, three-point locking system is provided on each access door.

Building Site

Foundations or special site preparation is not required. Safety Storage buildings may be located on virtually any hard, flat surface. Forklift pockets are provided for ease of relocation. Building hold-downs are furnished for use in areas where heavy wind loading or seismic activity is a factor.

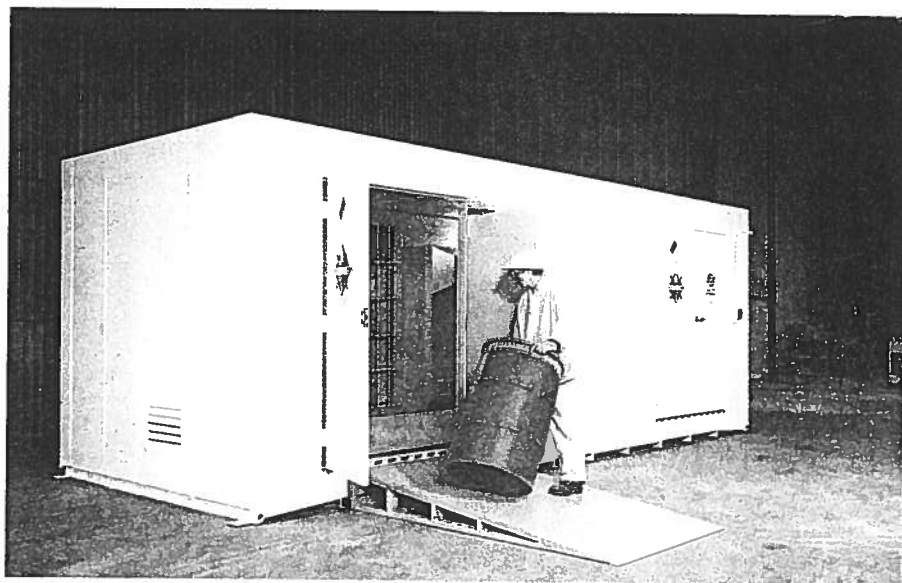
Grounding

To protect flammable materials from ignition by static electrical discharge, an external grounding connection, grounding rod and interior grounding lugs are provided.

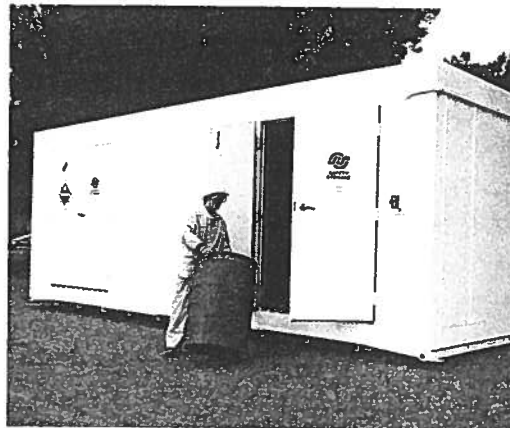
Hazard Labeling

To meet regulatory requirements, permanent placards and NFPA 704M rating signs are provided for flammable materials, corrosives, oxidizers, poisons, and other hazardous materials as required.

FR-SERIES FIRE-RATED BUILDINGS



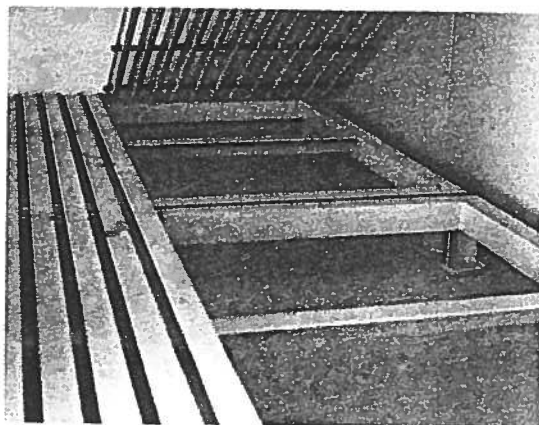
▲ Two-hour fire-rated building located inside a manufacturing plant. Available in 22', 15' and 7' sizes.



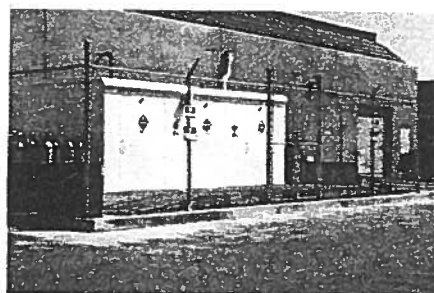
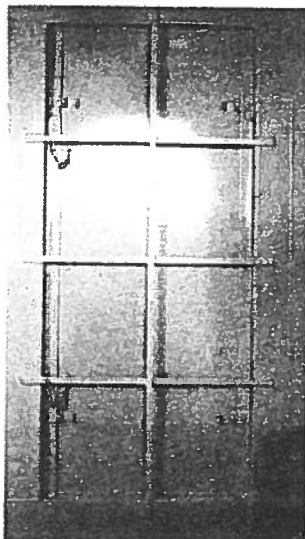
▲ FR-Series buildings offer maximum safety in storing chemicals, flammables and other hazardous materials. High quality design standards are consistent with local hazardous material storage ordinances as well as federal, state and local regulations.

New Safety Storage fire-rated buildings offer 2-hour, Class A flame spread rated roof and ceiling as well as 2-hour, Class A flame spread rated walls that comply with UL U-425 specifications. The FR-Series buildings are Factory Mutual System approved and utilize UL-listed components throughout. Buildings may be located as close as 10 feet from existing structures or inside of your existing facility.* The FR-Series buildings are designed and constructed to meet, and in most cases exceed, current and pending Uniform, Standard, and National Building, Electrical, Mechanical, and Fire Prevention Codes, as well as manufacturing quality compliance with ASTM, AISI and AWS materials and fabrication standards.

* Non-Factory Mutual usage subject to local authority having jurisdiction.



▲ Spill-containment reservoir shown below standard fiberglass floor grating



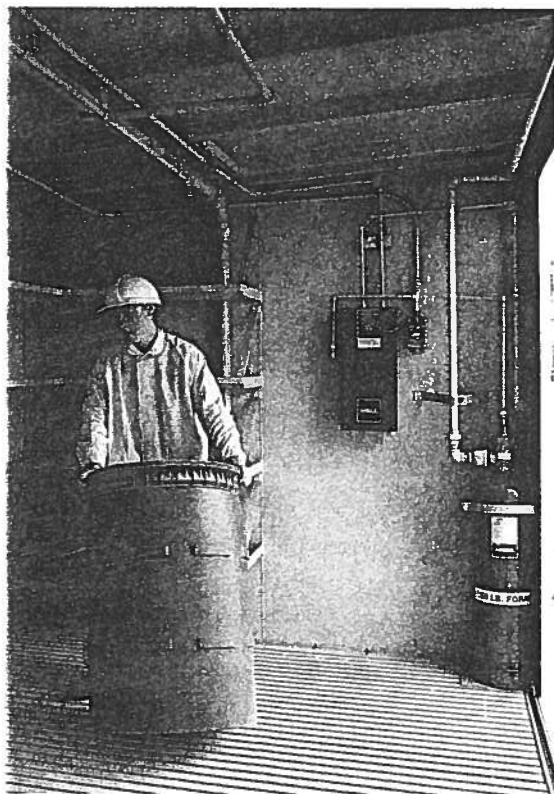
▲ A typical Model 22 plant-site installation

◀ Optional explosion vent panel is designed to relieve interior pressure

Factory Mutual System

APPROVED

Safety Storage Buildings



SAFETY STORAGE

Nationwide Manufacturer of Prefabricated Chemical and Hazardous Material Storage Buildings

Businesses and institutions must comply with federal, state, and local regulations, minimize liability, safeguard personnel and facilities, and keep our communities safe from hazardous waste and toxic chemicals.

Safety Storage buildings offer a comprehensive response to compliance requirements. Because they're from a company experienced in—and dedicated to—solving chemical and hazardous material challenges. A company with a network of field engineers who understand the complexities of compliance regulations. Backed by many years of manufacturing know-how and plants on both U.S. coasts, they're people able to tailor precise solutions to your storage requirements.

Safety Storage relocatable weather-proof buildings are proven throughout the country, in all climates and with virtually every hazardous material. They

demonstrate what no others can—solid environmental and chemical engineering know-how. Hazardous chemical and material handling, storage, and transportation is our only business. We know our business. And that's made us first choice among people who know theirs.

Our staff of professional field engineers are available nationwide for informative presentations on regulation compliance strategies and alternatives.

Safety Storage sales representatives, located in most U.S. industrial communities, are trained to help you attain safe hazardous material storage objectives. They will assess your chemical storage needs, prepare detailed storage-unit sketches and specifications, and provide written price quotations. Call today for the name of the representative nearest you.

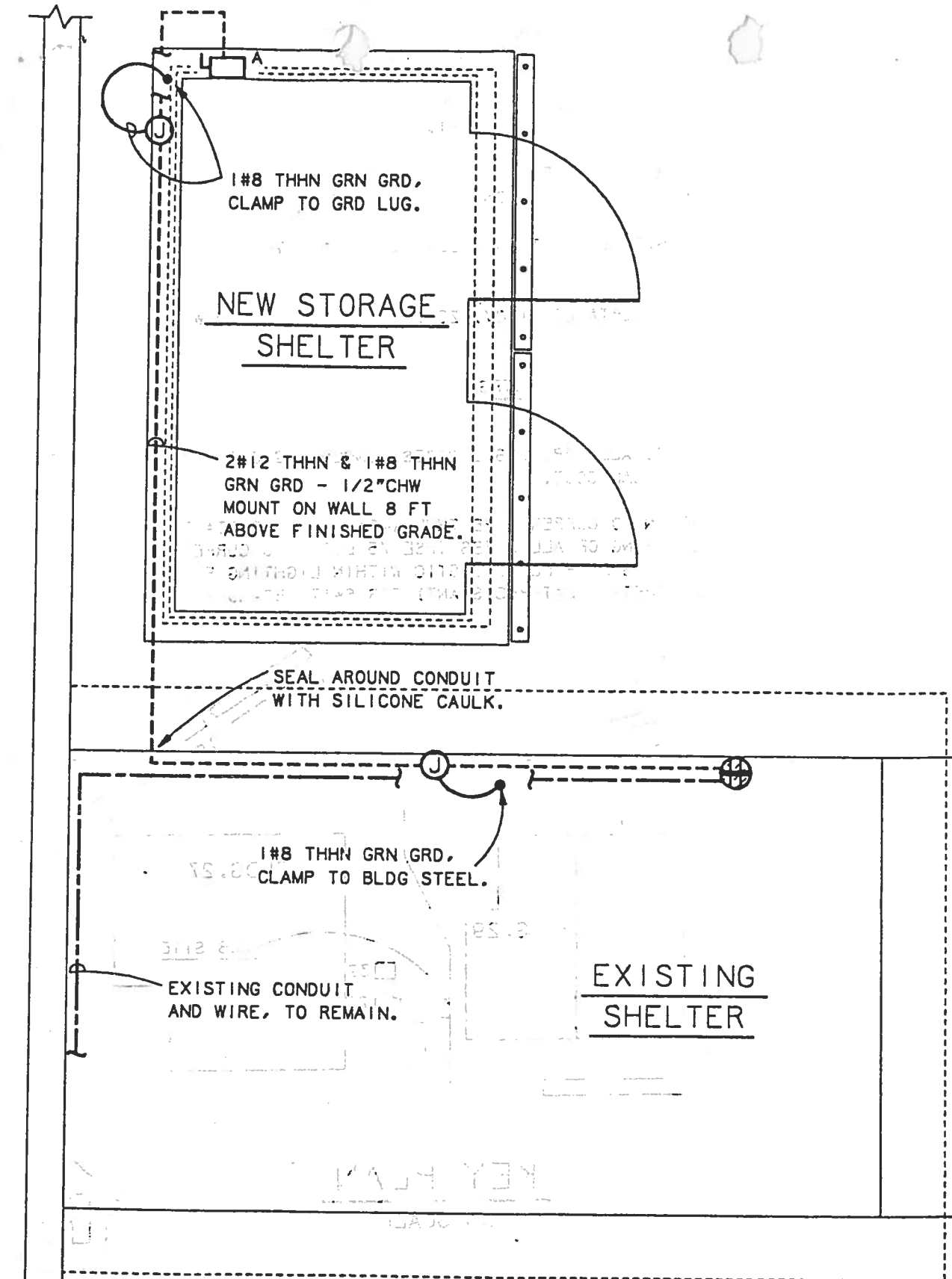
Model	Outside Dimensions			Inside Dimensions			Tare Weight* (Lbs.)	Door Openings		Designed Storage Capacity				Sump Capacity (Gallons)
	Length	Width	Height	Length	Width	Height		Height	Width	Weight (Lbs.)	Sq. Ft.	Drums	Pallets	
22	22' 11½"	9'	8' 7½"	21' 11¾"	8' ¾"	7' ½"	8,600	6' 9¾"	4' 6"	44,000	176	44	6	750
15	15' 7½"	9'	8' 7½"	14' 7½"	8' ¾"	7' ½"	6,000	6' 9¾"	4' 6"	29,250	117	28	4	500
7	8' 3½"	9'	8' 7½"	7' 3½"	8' ¾"	7' ½"	3,400	6' 9¾"	4' 6"	14,500	58	12	2	250
44FR	23' 6½"	9' 3"	8' 9"	21' 11"	8'	7' 4"	14,500	6' 7¾"	4' 10¾"	44,000	176	44	6	750
30FR	16' 2½"	9' 3"	8' 9"	14' 7"	8'	7' 4"	10,500	6' 7¾"	4' 10¾"	29,250	117	28	4	500
14FR	8' 10¾"	9' 3"	8' 9"	7' 3"	8'	7' 4"	6,500	6' 7¾"	4' 10¾"	14,500	58	12	2	250



SAFETY STORAGE™

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PLAN VIEW POWER

SCALE: 1/4" = 1'-0"

SYMBOLS

---//--- 2#12 THHN-1/2" EMT, UNLESS OTHERWISE NOTED. MOUNT EXPOSED ON WALL OR CEILING, UNLESS OTHERWISE NOTED. HACHURES, IF PRESENT, INDICATE NUMBER OF #12 THHN WIRES.

A FUSIBLE SAFETY SWITCH OR CIRCUIT BREAKER, 120V, 20A, 60HZ, PROVIDED AND INSTALLED BY SHELTER MANUFACTURER. CONNECT 2#12 THHN TO LINE SIDE.

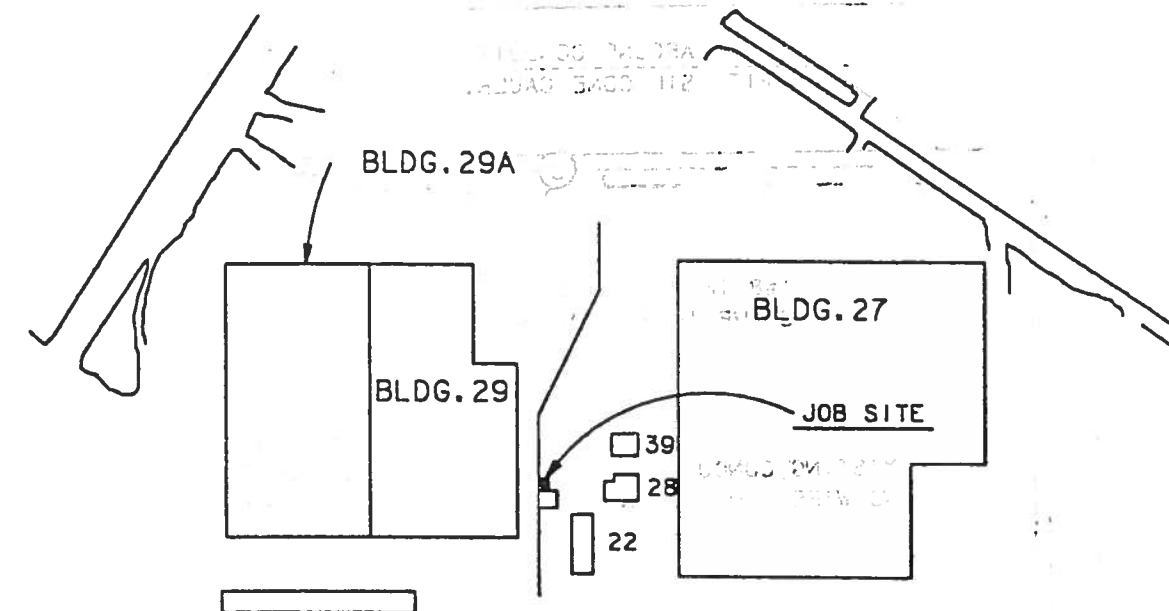
J JUNCTION BOX, SIZE PER N.E.C. MOUNT ON WALL, COL. OR ABOVE FALSE CEILING, UNLESS OTHERWISE NOTED.

EXISTING DOUBLE DUPLEX RECEPTACLE, 120V, 20A, 60HZ, MOUNTED ON WALL, TO REMAIN.

NOTES

1 ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 1987 NATIONAL ELECTRICAL CODE.

2 CONDUCTORS SHALL BE STRANDED COPPER TYPE THHN (MOISTURE-RESISTANT-THERMOPLASTIC) FOR POWER AND CONTROL WIRING OF ALL SIZES (USE 75 DEGREE C CURRENT RATING). USE TYPE AWM OR TEW (HEAT-RESISTANT-THERMOPLASTIC WITHIN LIGHTING FIXTURES UP TO 300V. USE TYPE SIS (SYNTHETIC HEAT-RESISTANT) FOR SWITCHBOARD WIRING.



KEY PLAN

NO SCALE



REFERENCE DRAWING
ARCH. A82213

R.F.F.O. 127331 A F.O.

HAZARDOUS WASTE SHELTER
NORTHWEST OF BLDG 22
ELECT. PLAN, SYMBOLS

APPROVED FOR CONSTRUCTION

BY _____
DATE _____

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